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## Fortnightly Review

### Here at Last

WE have been asked with increasing frequency lately if aviation is to have legislation enacted during the present session. During the past four weeks our answer has been in the affirmative. We see and feel basic federal aviation legislation finally in the making on Capitol Hill. We also see a lot of newswriters and columnists trying to fit old political expressions into a new aviation situation—a situation that few of them can fathom.

One thing is very evident: at last there is an AVIATION ISSUE that neither Congress nor the White House can ignore. It is not primarily an issue created through the airline pilots' lack of confidence in the ability of the Bureau of Air Commerce to regulate safety in the air. Nor is it an issue brought about because the Postmaster General has foolishly made his annual budget requests for airmail service expansion so small that long unserved cities are beginning to get tough with him.

It is the simple issue—partly economic—of a public clamor for a NEW DEAL IN AVIATION.

The Roosevelt New Deal has never extended to aviation. Under the present administration, the same old Post Office Department and the same old Department of Commerce, each manned by a new and originally inexperienced personnel has carried on. True, in the Post Office Department a New York brand of politics replaced the Ohio brand. Again true, in the Commerce Department a mid-western political philosophy was replaced by a more mellow political philosophy of South Carolina.

But all of this did not constitute

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## Responsibility for Aviation Bill Assumed by White House

### GEORGIA PROMOTES STATE COMMISSION

Gas Tax Refund Measure Similar to  
Tennessee Plan Introduced;  
a 5-Man Body

A state aviation commission of five members and return of all aviation fuel tax receipts to aeronautical uses are called for in a bill introduced in the Georgia Legislature. The bill has not yet met opposition.

Principal sponsors of the measure, which is similar to a law passed in Tennessee and now in effect, are Atlanta city officials in charge of the Municipal Airport, said Frank K. Shaw, secretary of the industrial bureau of the Atlanta Chamber of Commerce.

Each of the five commissioners would serve four years, be appointed by the governor and confirmed by the senate. Two must be members of the State Highway Board. Three are to be chosen from the public. All shall serve without compensation except for \$10 for each day's service up to and including five days a year.

The commission will select an aeronautical director subject to the governor's approval for a four-year term at a salary fixed by the commission. (Turn to page 2)



JIMMIE ROOSEVELT

Son and Secretary of the President, who is acting as White House liaison with proponents of aviation legislation and who is making many suggestions to Senator McCarran and Representative Lea. (Harris & Ewing Photo).

### War Sentiment Abroad and Airline Finances Are Factors Assuring Early Legislative Relief

WITH the White House assuming more and more responsibility in the shaping of aviation legislation, prospects for passage of the redrafted McCarran-Lea bill for an independent aviation commission became virtually certain the first two weeks of February.

Those in the know have been quietly but definitely informed on the highest authority that aviation legislation must be enacted by the present Congress and well informed observers predict the commission will be on the statute books by the end of March or the middle of April.

Clinton M. Hester, assistant general counsel of the Treasury Department, is apparently emerging as the "man of the hour" in the legislative picture as he carries White House suggestions for harmony and action into the drafting of amendments to the original McCarran-Lea bill.

Working under the direction of Representative Clarence M. Lea, during Senator Pat McCarran's ten-day absence from Washington on official business, Mr. Hester has made effective headway in ironing out differences of opinion between officers of the Post Office and Commerce departments and the Air Transport Association.

The efforts of Mr. Hester are interpreted as White House leadership to aid Messrs. McCarran and Lea through a maze of departmental obstructions which have prevented earlier action on important relief legislation for scheduled air transport. He was suggested for his present assignment by James Roosevelt, son and secretary to the President. His activities in connection with the White House, cognizant of the war talk throughout the world, is assuming responsibility for an aviation act that will put American civil aviation on a sound basis for both peace and war.

Mr. Hester's qualifications as White House aide on aviation legislation are numerous. He did not come in with the New Deal and has had more than a decade of experience with legal and

### 5 Light Plane Manufacturers To End Cut-Throating; See 1800 Sales in '38

One of the indirect but outstanding incidents resulting from the International Air Show at Chicago was a general agreement of cooperation and decision to eliminate cut-throat tactics by the five manufacturers of lightplanes selling at or near the \$1500 mark.

While the lightplane manufacturers reached agreements which in no way transgressed upon illegal price fixing, they did agree upon a new era of co-operation which is expected to abolish the threat of price slashes which would have brought the sales tags of lightplanes down below production cost.

Piper Aircraft, Taylor-Young Aircraft, Aeronautical Corporation of America (Aeronca), Porterfield Aircraft and Luscombe are those included in what amounts to a small trade association working informally on mutual problems. Each agreed that as far as selling airplanes is concerned, the field is open and there will be no cooperation in such matters as institutional adver-

tising. The spirit of competition remains and each manufacturer will maintain his own price—a price designed to provide a margin of profit.

"Public financing is changing the light airplane manufacturing business," one executive said. "Once the public begins to invest money, it wants a return on the investment. It is this angle that is going to result in profits for our part of the industry."

"We are not going out to make a lot of units without profit, but we are going to try to make a profit on a smaller number of units. Believe it or not, airplane manufacturing is really becoming a business."

Although estimates of some lightplane manufacturers last fall and during the early part of the winter indicated that 1938 would see a record production of sales, the manufacturers decided to be a little more reasonable

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legislative problems of both the Department of Justice and the Treasury Department. He has been legislative contact man for both departments and knows his way around Capitol Hill. He has aided in drafting proposals for governmental reorganization and is well grounded in that subject. He is familiar with the work and thinking of the Roper interdepartmental committee to consider aviation legislation, having sat with that committee as the alternate for the regular Treasury Department member. He is widely, though quietly known, among Senators and Representatives.

As this issue went to press, the eighth draft of the bill was being completed. In essentials it differs little from previous drafts, providing for a five-man commission and bringing under the scope of the proposed body all functions of the existing Bureau of Air Commerce. Present personnel of the Bureau would be automatically transferred to the commission but the commission would have power to change personnel at the end of the fiscal year (June 30, 1938). All foreign air commerce would be included in the commission's authority.

As outlined at the moment, the commission would be known under the designation of "Authority", similar in set-up to the Tennessee Valley Authority and other New Deal agencies. It is likely that the full title would be Federal Aviation Authority, although it is too early to say with certainty just what the set-up will be. Publication of any detailed provisions is decidedly premature and this can be said with distinct reliance.

What the bill does give, however, is much more authority to the President and observers believe the war talk is directly responsible for this concentration of power in the event of a national emergency. War talk and the absolute necessity of legislative relief for airlines to prevent some of them from going into receivership in the near future, are two vital reasons why the legislation is fully expected to be on the statute books soon.

Senator McCarran and Mr. Lea are to make final decisions in connection with the uniform amendment to their bills in each House. Any irresponsible talk of disputes between the two men is known to be without the slightest foundation.

Certain compromises have been effected to satisfy the Post Office department in connection with the timing of mail schedules and the Department of Commerce has been satisfied in the matter of overseas air transport rates. The domestic airline operators have not been active in connection with drafting details for some weeks, feeling that Senator McCarran and Mr. Lea fully understand their problem and that the White House is sincere in the move to expedite the correction of the obsolete air mail act of 1934.

## GEORGIA

(Continued from page 1)

sion and not to exceed \$5,000 a year. The director must have engaged in civil aeronautics for at least three years.

Duties of the commission are outlined as follows:

"The commission shall adopt, promulgate and enforce rules, regulations and orders to safeguard from accident and to protect the safety of persons operating and using aircraft, and the persons and property on the grounds, and shall develop and promote aeronautics within the state...and shall promote and assist in the establishment of airports by the state, counties and municipalities. Provided, however, no

air traffic shall be operated to the extent that it is in conflict with any municipal airport rule or regulation governing the landing, taking off or maneuvers of aircraft upon, over or within 3,000 feet of a municipal airport."

Five-sixths of the motor fuel tax received from distributors at wholesale or retail, sold at or delivered on state, county and municipally owned ports are allocated to the commission which distributes the receipts as follows: Two-fifths retained by the commission as administration expenses and promotion of aviation in Georgia. Three-fifths to be returned to state, county, or municipally owned airports from which the tax was collected.

Aviation fuel dealers will be required to pay the state motor fuel oil tax to the comptroller general, who will keep a separate record, credited to the airport. The comptroller general at the end of each quarter will supply the commission with a statement, and the commission then will remit to each airport the amount entitled to it. Airports will be required to spend the income only for "betterment, extension, improvement and maintenance of said airport only."

The Tennessee law demands that airports submit to the three-man commission on the 10th of each month total gallonage of aviation fuel for the previous month.

"Our state has a seven cent gasoline tax per gallon," explained Haywood Norman, Jr., director of the Tennessee Bureau of Aeronautics at Nashville. "The commission gives to the airport in which the fuel was sold one half of the tax, and the remainder reverts to the commission."

Memphis Municipal Airport consumed more than 96,000 gallons of gasoline in July, Norman said, and the amount returned to the airport was about \$3,300. Money reverting to the commission is allocated throughout Tennessee to small fields in sparsely populated communities which have small fuel sales.

Each person selling aviation fuel must make a triplicate report of each sale. Copies go to the commission, commissioner of finance and taxation, and commissioner of administration.

The commissioners are appointed by the governor and hold office indefinitely. Each receives \$10 a day for official duties and is compensated for travel expenses.

## LIGHT PLANE

(Continued from page 1)

and practical in making their plans. Piper Aircraft has set a goal of 3,000 airplanes for the year, but the business recession will undoubtedly keep this goal from being reached. The five manufacturers estimated that about 1800 airplanes would be produced and sold by the group during 1938, divided up as follows: Piper Cub, 700; Taylorcraft 500; Aeronca, 400; Porterfield and Luscombe, 200.

Although these figures are merely conservative estimates, each manufacturer will try to exceed them. Much depends on the general state of business, and each plant is equipped to increase production immediately if the demand warrants. The five companies expect to have meetings occasionally along trade association lines. One immediate result of the Chicago meeting was the changing of the price tag of one manufacturer to a higher figure and the decision of another not to cut his price as he had contemplated.

A TREASURY REPORT to the House ways and means committee recently reported the following 1937 salaries: Vincent Bendix, president, Bendix Aviation Corp., \$49,999; James Work, president, Brewster Aeronautical Corp., \$51,424; G. W. Stratton, employee, Douglas Aircraft Co., \$63,200.

## BAC Reports Structural Failure Was Cause of Lockheed Accident Jan. 10

A Bureau of Air Commerce accident investigation board on January 29 found "structural failure of the upper vertical fins and rudders due to flutter which resulted in a loss of control of the aircraft" to be the cause of the crash of Northwest Airlines' Lockheed 14-H near Bozeman, Mont., January 10.

Examination of the wreckage disclosed that upper portions of both the right and left vertical fins and both upper rudders were missing and "a search for them was in progress and still continues." The board found, through examination of adjacent parts, that there had been severe vibration and bending of the fins both to the right and left, and that the rudder tab control cables had parted in tension.

"These findings leave no room to reasonably doubt that the upper portions of the right and left vertical fins and rudders separated from the airplane while in flight," the board stated.

It was further stated that "the evidence indicates that this flight was dispatched out of Butte in accordance with normal company procedure, was progressing normally, flying by visual contact method, cleared the mountain range with a fair margin of safety and that the loss of control of the aircraft was in no way the fault of the pilot. The aircraft was carefully designed in light of all of the knowledge of the art at that time and constructed in accordance with the dictates of accepted safe practice."

Extensive tests had been conducted at the Lockheed factory on the model "14," and a vibration machine used in these tests indicated that flutter would not occur. Department of Commerce representatives viewed the tests, the results of which were used as a part of the basis for approving the plane for an Approved Type Certificate.

On January 11, as soon as flutter became suspected as a factor in the accident, the BAC grounded all Lockheed "14s," and started tests on another plane of the same type. This check test, which was made with a more highly developed vibration machine, "definitely indicated the possibility of flutter and demonstrated that the vibration machine used by the factory and recognized by the Department of Commerce for measuring the natural vibration periods of the component parts of the airplane apparently gave misleading results."

The assistant chief engineer of the Lockheed Aircraft Company testified before the board that as soon as his company learned of the accident and the possibility of flutter, "it immediately took steps to eliminate such a possibility. This has been accomplished by re-designing the surfaces in such a manner that the normal frequencies of the component parts are as far apart as it is physically possible to make them."

The board stated in its report that the Department of Commerce is making a research study looking to the elimination of structural failure because of flutter and is acquiring new vibration-testing machines.

Three days before the Bureau issued its report, the Lockheed Aircraft Corporation sent telegrams to various interested parties summarizing the situation. Carl Squier, sales manager for Lockheed, made available a copy of the telegram in Chicago. It read:

"Official statement of U. S. Department of Commerce based on findings of investigation may not be announced for some time but we desire to give you a summary of the situation. There is some basis for feeling that while flying at high speed in adverse weather including extraordinary air turbulence,

flutter conditions may have been induced which caused vertical tail surfaces to fail.

"Although we have never made a practice of statically balancing elevators fins and rudders we are now installing static balances on these surfaces in standard installation on all model fourteens in order completely to eliminate any possibility of flutter being induced by any means in the future.

"This precaution together with additional reinforcing fuselage around the door and empennage assembly has been completely tested by U. S. Army Air Corps and has been fully approved by the U. S. Department of Commerce for strength vibration and airworthiness. All fourteens are now approved except with deicers installed. Weather permitting, Department of Commerce will flight test with deicers today and we expect approval which will allow Northwest Airlines to resume service with fourteens. We are confident there will be no further trouble, and in our opinion, incident will be closed as soon as above test is completed."

## WESTERN AIR ASKS INCREASED RATES

Wants Pay For 115,000 Airplane Miles Instead of 45,000 in I. C. C. Petition

Western Air Express has formally entered a petition with the Interstate Commerce Commission, asking that the number of airplane miles flown with mail each month over AM13 at the base rate of 33 1/3 cents per mile, be increased from 45,000 to 115,000. The company asked that the order become effective as of the date of filing the petition. No date has been set for the hearing.

General Airlines, the petitioner's predecessor, operated one round trip daily over AM13 between Salt Lake City and San Diego, receiving 33 1/3 cents per airplane mile for a total of 45,000 miles flown with mail each month. It was stipulated under Air Mail Docket 1, that this base rate should be progressively decreased one cent upon each increase in the number of airplane miles which equaled 10 percent of the mileage named for the base.

After Western Air succeeded General Airlines, two additional round trips daily were eventually authorized, and the company claims that these trips have boosted the monthly mileage from 45,000 to 115,000. As a result, the base rate on the additional mileage has automatically been reduced to 28 1/3 cents per mile.

The petition states that the "rate of 28 1/3 cents is not fair and reasonable compensation for the transportation of mail over said route and the service connected therewith; that the cost of transporting the mail by the petitioner has not been reduced sufficiently by reason of the additional mail schedules authorized; that the reduction of the base rate from 33 1/3 to 28 1/3 cents by reason of the additional mileage flown constitutes a burden upon the operations of the petitioner; and that the monthly mileage named for said base rate of 33 1/3 cents in the order entered in Air Mail Docket 1, no longer has any relation to the number of miles actually flown with mail by the petitioner during any month."

The petition was signed by Charlie N. James, vice president of Western Air Express.



## Pan Am Seeks to Fly Seattle-Juneau Route; Okay is Probable

PAA Alaskan Subsidiary Is Sole Bidder for Territory Air Mail Routes But Awarding of Contracts Doubtful

Pacific Alaska Airways, wholly-owned subsidiary of Pan American Airways, has applied to the government's interdepartmental committee for permission to fly between Seattle and Juneau, Alaska, following a 700-mile water route outside the jurisdiction of Canada. This application looms as the first break in the deadlock which has stymied various plans for an air route between this country and the Territory of Alaska.

Col. J. Monroe Johnson, Assistant Secretary of Commerce, said on Feb. 10 that the application was under consideration and indicated a fairly early decision. It is considered more than likely that Pan American will be granted the permission.

Pacific Alaska was the only bidder Feb. 1 for the foreign air mail routes between Juneau, Alaska, and Whitehorse, Canada, and Fairbanks, Alaska, and Whitehorse. The bid offered on the Juneau-Whitehorse route was \$1.55 per statute mile for 800 pounds of mail and 77 cents per pound per 1,000 miles for excess. On the Fairbanks-Whitehorse route, the bid was 80 cents per statute mile for the same amount of mail, and 40 cents for excess.

It had previously been the plan of the Post Office Department to open the bids on Dec. 15, last, but due to an objection raised by the Bureau of Air Commerce as to the type of equipment to be used, the P. O. was forced to revise the bids (AMERICAN AVIATION, January 1). Pacific Alaska now states that it will use 10-passenger, twin-engined Lockheed Electras on the routes. As far as can be learned, the BAC, although far from satisfied with the airports in Alaska, does not plan a further protest. For the past five years, Pacific Alaska has been operating planes between Fairbanks and Nome and for the past three years between Fairbanks and Juneau.

It has been learned however, that these contracts will not be awarded for some time and possibly not at all. The Post Office would make no comment on this report, but authentic word in Washington indicated the contracts would not be let.

Reason for the hold-up of the contracts is the foggy international situation by which the United States and Canada are jockeying for position on air mail rights. The United States is desirous of operating an air route to Alaska without entering Canada, for if the route enters Canada, that country wants reciprocal permission to enter either the U. S. or Alaska. In the opinion of Washington, the air mail routes for which bids were recently opened, place this country at a disadvantage because Whitehorse, in Canada's Yukon Territory, is a terminal, and in exchange for landing rights, Canada wants to operate into Alaska.

To further complicate the situation, the State Department has discovered a joker in an agreement made with Canada some years ago which evidently gives a Canadian airline rights to fly from Whitehorse to Fairbanks. Apparently no one in Washington remembered this clause until very recently and now the legal authorities are at work trying to find out just what the situation is.

If Canada stands on its rights as per the agreement, there will be

## MECHANICS & WAE SIGN

Salary Increases, Overtime Adjustments Announced by J. L. McFarland

The Air Line Mechanics Association signed an agreement with Western Air Express on January 31, according to announcement by J. L. McFarland, vice-president of the ALMA who negotiated the document. The agreement was reached following intervention of the National Mediation Board.

According to the ALMA, the agreement provides for substantial salary increases and "shows a decided improvement over previous agreements signed by the ALMA." Payment of salaries will be on a monthly basis for all employees, overtime pay at the rate of time and one-half, two weeks' vacation with pay after one year's service, elimination of the physical examination clause, and the granting of sole bargaining rights for mechanics on the line to ALMA.

The following basis salary rates are established: a minimum of \$200 per month for crew chiefs; \$170 to \$185 for senior mechanics; \$150 to \$160 for mechanics, and \$100 per month for the first year to \$130 per month for the fourth year for apprentices. This is the seventh airline agreement signed by the ALMA.

plenty of headaches in Washington, although Washington is attempting to work out an amicable solution. The British are particularly anxious to obtain air rights into and through Alaska as the British have contemplated for some time an empire air route through Canada and on to the Orient. Hence the U. S. is attempting to expand its own services to Alaska without giving any more rights away to other countries than is necessary at the present time.

As for other routes to Alaska, by way of Spokane or Helena, Lethbridge and Edmonton, it is known that these routes are still under consideration although the Seattle-Juneau route will be given preference. Canada is now operating regular mail service from Edmonton to Whitehorse via United Air Transport, Ltd., and Western Air Express is anxious to operate into Lethbridge to connect with this service. This so-called "inside" route is known as the Sunshine Route. Spokane has also been putting up a fight for a route which would run north from there to Whitehorse.

Advocates of the Puget Sound-Juneau route will get preference, however, because (1) the greater volume of mail to Alaska originates in Seattle and Portland, (2) the national defence angle demands development of such a route, and (3) this route can be operated without giving any reciprocal rights to Canada, as it would operate over open sea.

Government engineers are surveying routes in Alaska in an endeavor to build an airway from Juneau to Fairbanks without crossing over into Canada. For this reason the air mail contracts will not be awarded until a decision is made. Heretofore almost all plane service from the lower part of Alaska to the upper part has been via Whitehorse, on the Canadian side, because of terrain.

## Aviation Calendar

Feb. 21-26—Sportsman Pilots' Association Winter Cruise, Florida.  
Mar. Fourth National Intercollegiate Flying Conference, Washington.  
Mar. 4—Airport Advisory Committee Meeting, Department of Commerce, Washington, D. C.  
Mar. 5-6—Executive meeting, National Aeronautic Association, Washington, D. C.  
Mar. 10-11—SAE National Aeronautic Meeting, Washington, D. C.  
Mar. 11-12—Southwest Aviation Planning Conference, Oklahoma City.  
Mar. 23-25—Spring Meeting, American Society of Mechanical Engineers, Los Angeles.  
April—Southeastern Aviation Planning Conference, Montgomery, Ala.  
April 2-10—3d Annual Pacific Aircraft and Boat Show, Los Angeles.  
April 12—Annual Meeting, Aeronautical Radio, Inc., Washington, D. C.  
April 12—Aeronautical Meeting, Society of Automotive Engineers, Metropolitan Section, New York City.  
April 16-17—Fourth National Intercollegiate Flying Conference, Washington, D. C.  
May—Eastern Aviation Planning Conference, Atlantic City, N. J.  
June—National Intercollegiate Meet.  
June 4-5—8th Annual National Air Carnival, Birmingham, Ala.  
June 19—2d Annual Santa Ana, Calif., Air Show.  
June 25-July 10—9th Annual Soaring Contest, Elmira, N. Y.  
June 28-30—Institute of the AEs. Meeting as part of Summer Meeting of the American Association for the Advancement of Science, Ottawa, Canada.  
Sept. 3-5—National Air Races, Cleveland.

## Okay First Helium Exports For Zep

A license for exportation of 2,600,000 cubic feet of helium to Germany has been granted by the State Department, the first consignment of an allotment of 17,900,000 cubic feet for the new German Zeppelin which is scheduled to start trans-Atlantic service between Germany and the United States in June. The first shipment is valued at \$28,080.

The licenses issued to the German company and to three other firms for smaller quantities, were the first to be approved by the National Munitions Control Board since exportation was authorized by Congress in an act approved by the President September 1, 1937.

Stipulations are that all of the helium must be used in Germany-United States service, the purchasers must satisfy the board that none will be diverted to military use, and two American Naval officers are to be permitted free passage on the ship each voyage to acquire experience in airship operation. Helium deliveries will be made both to Germany and at Lakehurst, since leakage on each round trip is said to be about 500,000 cubic feet.

Two helium export licenses were issued to Great Britain and one to Canada, for medical use.

## I. C. C.

### Pending Air Mail Dockets

A.M.D. Nos. 1-16-18—Air Mail Compensation. Part of hearing held Feb. 3. Postponement until later date requested by Post Office Department.  
A.M.D. Nos. 17-36—Air Mail Rates for Rt. No. 2, operated by TWA, Inc. Hearing began Feb. 8.  
A.M.D. No. 23—Air Mail Rates for Rt. No. 8, operated by Chicago and Southern Air Lines, Inc. Examiner preparing report.  
A.M.D. No. 28—North American Aviation, Inc., Base-Rate Mileage. Hearing Dec. 14-22. Briefs filed Jan. 24. Examiner preparing report.  
A.M.D. No. 30—TWA, Inc., Rate Review, 1935-1936. Hearing began Feb. 8.  
A.M.D. No. 34—Braniff Airways, Inc. vs. TWA, Inc. Hearing March 8.  
A.M.D. No. 35—Boston-Maine Airways, Inc., Base-Rate Mileage. Hearing March 1.  
A.M.D. No. 38—Western Air Express Corp., Base-Rate Mileage. Hearing March 15.

## USED PLANE BLUE BOOK IS ADOPTED

Sales Managers Approve Use of Aero Chamber Price Code; Urge Rule Changes

Chicago, Feb. 2—Commercial airplane sales managers at a meeting today sponsored by the Aeronautical Chamber of Commerce, agreed to adopt a Used Plane Blue Book containing average values of models according to year and condition. The book is to be compiled by the Chamber, basing its contents on records from the manufacturers and their distributors.

Desirability of urging the Department of Commerce to revise some parts of its new air traffic rules came in for plenty of discussion. The sales managers are requesting the Chamber to submit to the Department the following recommended changes:

1. Seaplanes should be permitted to fly at 150 feet over open water instead of being required to maintain 500 feet altitude as now provided for all aircraft.

2. The manufacturers should be permitted to deliver aircraft by air to foreign countries or to ports of export, and these machines should not be required to have identification marks unless they are supplied by the foreign customer.

3. The rules should be amended to provide the same visibility requirements for both day and night flying.

4. Retroactive requirements or requirements which are retroactive in effect should not be issued by the Bureau of Air Commerce except in cases of emergency, and the industry should be fully advised of the reasons therefor.

The trend towards standardization of instrument prices and installation charges made great progress. Hugh Perry, Waco sales manager, submitted a list of 108 different items, comparing list prices and discounts offered by several representative companies—so that all might see the variations and, if possible, reconcile their prices and charges with the average. It was agreed that Mr. Perry should compile a revised list every six months. The radio manufacturers also are to be asked to cooperate in standardization. Delivery charge standardization will receive close study in future with the idea of establishing a mileage rate based on insurance premiums.

## Passenger Service Cut 4 Days by Northwest

Northwest Airlines ran into more hard luck in the wake of the Lockheed 14-H accident when on Feb. 5 the airline cancelled all passenger service on the line and the Bureau of Air Commerce grounded all ships for passenger-carrying operations because of maintenance.

On Feb. 9, however, the 10A's and the 10B's were put back in the air and the Bureau lifted its ban also on the reconstructed 14's, the latter having successfully passed the 50-hour tests. As this issue went to press, passenger service had been restored and all of the 14's, reconstructed, were expected back in the air as rapidly as conditions permitted.

This was the first instance of a complete shut-down of passenger operations on a major domestic airline for some years. With all 14's grounded by the accident, Northwest was hard put to continue its service with the Electras which it still owned. Apparently the Bureau felt it would play safe by grounding all equipment to make certain that maintenance requirements were fully met.

## Chicago Show in Red; Chamber To Be Own Manager in Future

**Manufacturers Decide to End "Sanctioning" Arrangement and Sponsor Own Affairs; Exposition Attendance Good But Few Spot Sales Recorded**

Chicago, Feb. 6—Coincident with the closing today of the International Air Show here came the news that all future aircraft shows will be conducted by the Aeronautical Chamber of Commerce. The decision by the manufacturers means the end of the sanctioning plan under which previous shows have operated.

At a Chamber-sponsored meeting of manufacturers it was decided that no aircraft show will be held in the future unless the manufacturers themselves give approval in advance, and shows will be strictly an industry affair, sponsored and managed by the Chamber. Heretofore it has been possible for outside groups to operate an aircraft show by obtaining a "sanction" from the Chamber on payment of a fee, the size of which was determined by the extent of the show.

The sole exception will be the Pacific Aircraft and Boat show, managed by Phil and Cliff Henderson, which will be held in Los Angeles April 2-10. The Chamber had already granted a sanction to this show before the Chicago decision was reached.

The Chicago show ended in the red, although officials would give out no figures. Attendance was generally very good, but the management had to overcome a \$70,000 operating cost which almost had the show licked financially before it started. Attendance figures given to the press totaled 214,000, but this was far above the actual paid gate.

Held in the International Amphitheatre in the stockyard area, the show was handicapped at the start by location. General opinion was, however, that actual attendance was better than at the New York show a year ago, although the quality lower. There was an abundance of school children but a lack of quality buying prospects. The show was aided by an excellent promotion campaign locally, although lack of news stories kept the press ballyhoo low during the show.

Jack Vilas, of Pyle-National Company, and an Early Bird, was president of the management. James H. Dunbar was executive vice-president and Maynard W. Schryver was general manager. Both of the latter were new to aviation but impressed the industry crowd by sincerity and hard efforts.

One good feature of the show was the abundance of space, although decorations were lacking. Of exceptional merit were the educational exhibits of the National Advisory Committee for Aeronautics and other government agencies. A twice-daily pageant in the amphitheatre was a major attraction and provided one of the reasons for the high operating cost. The pageant cost plenty, although it unquestionably attracted many patrons to the show.

Sales were generally meager, but few exhibitors were disappointed. Some manufacturers persisted in releasing statements telling of record sales, but the average was probably not more than one plane per exhibitor and some recorded none at all. This is exclusive of dealer sales, of which there was the usual number. The lightplane group generally considered the show worth while because of additional dealer and distributor contracts and a number of new tie-ups were effected.

Only "international" exhibitor was Canadian Aviation magazine. Feature attraction to the public was the Douglas DST sleeper transport exhibited jointly by United, American, TWA and

Pan American. There was always a long line of persons waiting to go through it.

There was very little in the way of new aircraft on exhibition. The Gwinn Aircar, with Frank Hawks and Nancy Love in charge, was a popular attraction. The Wendt was the only "unknown" new plane. Hugh Perry had his Waco N—tricycle landing gear job—on hand, and Bellanca exhibited its new low-priced ship. Howard Aircraft had three ships on the floor. Only two engine jobs were the Douglas DST, a Lockheed 12, and the twin-engine Beechcraft. Feature of the main arena was four planes on floats sitting in pools of water.

Most exhibitors lives were shortened several years by swarms of kids. Tail lights and any accessory that could be grabbed up were taken and every plane came in for rough handling unless carefully guarded.

Engine and accessory manufacturers were well located and attracted a good share of attention on the second floor. Largest of these exhibits was Bendix Aviation Corporation with Herbert Sharlock in charge. The new 50-hp engines of Continental, Menasco and Lycoming attracted much industry interest.

### Giro as Artillery Scout

Advantages of the autogiro over the airplane for use with field artillery troops were advanced by Major General U. Birnie, Jr., chief of the United States Field Artillery, in his annual report for the fiscal year 1937. Major General Birnie stated that "Tests of the autogiro type of aircraft conducted during the fiscal year 1937 both at the field artillery board and the Field Artillery School, confirm the view that it promises to offer important advantages over the airplane for purposes of tactical operation with field artillery troops."

## Propaganda For Government Factories

WITH THE PRESIDENT sending to Congress a new Navy building program over and above the regular budget estimates for the fiscal year starting July 1, 1938, industry executives anticipated a revival of the movement in Congress now dormant for government construction of aircraft.

TO COUNTER-ACT any such sentiment in Congress, Leighton W. Rogers, president of the Aeronautical Chamber of Congress, released results of a survey January 31 which he had made of the aviation industry. The Chamber release estimated that American aircraft manufacturers can turn out more than twice the dollar volume of their present record peacetime production of planes, engines and accessories, without expanding existing plant facilities.

"DURING THE PRESENT fiscal year the industry is producing aircraft and accessories valued at \$158,000,000, and that production could be stepped up to \$345,000,000 during the next fiscal year and still remain on a peacetime basis," Mr. Rogers said.

OBSERVERS SAW in the Chamber report a smart maneuver to block erroneous expressions in Congress to the effect that American manufacturers were loaded up with orders now and that it would be necessary in any expansion program for the government to erect its own factories and build its own airplanes and engines. Although most manufacturers are busy with orders, many of them for the government, it is no secret that there is ample room in existing facilities to take care of any expansion program the government may wish to execute.

THE ONLY EXPANSION necessary within the industry, the Chamber report said, would be for labor. There are now about 36,000 men employed in current production, whereas the industry could handle \$345,000,000 worth of business during the fiscal year ending June 30, 1939, by employing 38,000 men, and operating the plants in three 8-hour shifts daily.

IN 1934 THE INDUSTRY employed 14,000 men. Within four years this figure has been more than doubled, but if the industry should work at full capacity it would employ 74,000 men. This is direct employment only. No new factory space was provided for in the estimates, although most plants could easily be enlarged within a short time. There is, in effect, no practical limitation to the extent of production by the industry if orders are available and certainly there is no need for government construction.

## ROGERS KEEPS ACC POST NON-TRANSPORT

### MEN MAY UNITE

Other Officers, Board of Governors, and Executive Committeemen Named

New York, Jan. 27—The Aeronautical Chamber of Commerce of America, Inc., today re-elected Leighton W. Rogers, Washington, D. C., president. Other officers were:

Vice-presidents: Wallace Kellett, Philadelphia; Walter Beech, Wichita, Kan.; Charles E. Parker, Washington, D. C. Secretary, Clare Bunch, St. Louis; treasurer, Charles F. Barndt, Williamsport, Pa.

The new board of governors: Charles F. Barndt, Aviation Manufacturing Corp., Williamsport, Pa.; James Murray, Boeing Aircraft Co., Seattle, Wash.; Guy W. Vaughan, Curtiss-Wright Corp., New York; S. M. Fairchild, Fairchild Aviation Corp., New York; Courtland Gross, Lockheed Aircraft Corp., Burbank, Cal.; B. D. DeWeese, Stinson Aircraft Corp., Wayne, Mich.; Don L. Brown, United Aircraft Corp., East Hartford, Conn.; C. J. Brukner, Waco Aircraft Co., Troy, Ohio; M. B. Gordon, Wright Aeronautical Corp., Paterson, N. J.

Others on the board are: Charles Marcus, Eclipse Aviation Corp., East Orange, N. J.; E. D. Osborn, Edo Aircraft Corp., College Point, N. Y.; C. L. Lawrence, Lawrence Engineering & Research Corp., Linden, N. J.; T. A. Morgan, Sperry Gyroscope Co., Brooklyn, N. Y.; Walter Beech, Beech Aircraft Corp., Wichita, Kan.; L. D. Bell, Bell Aircraft Corp., Buffalo, N. Y.; G. M. Bellanca, Bellanca Aircraft Corp., New Castle, Del.; Richard Goldsmith, B. G. Corp., New York; Raycroft Walsh, Hamilton Standard Propellers division of United Aircraft Corp., East Hartford, Conn.; J. Story Smith, Jacobs Aircraft Engine Co., Pottstown, Pa.; Ted Weld, Piper Aircraft Corp., Lock Haven, Pa.; Oliver Parks, Parks Air College, East St. Louis, Ill.; W. D. Guthrie, Roosevelt Field, Mineola, N. Y.

Other board members elected are: J. D. Jennigan, Jr., The Texas Co., New York; Frank Tichenor, Aero Digest, New York; Floyd Evans, NAAO, Lansing, Mich.; Grove Webster, Private Fliers Assoc., Bogota, N. J.; John Dwight Sullivan, New York, and Leighton W. Rogers, Washington, D. C.

Those elected to the executive committee were Barndt, Bell, Brown, Brukner, Gross, Marcus, Morgan, Murray, Rogers and Vaughan.

### New Air Corps School

Secretary Woodring Jan. 27 ordered immediate opening of the new branch of the air corps technical school at Lowry Field, Denver, and the transfer there of 285 officers and men.

## Promotion Project For Chicago Show May Crystallize Independent Aviation Sentiment

Chicago, Feb. 5—What apparently began as a scheme to promote attendance at the International Aircraft Show appears likely to result in formation of a national organization which will include fixed base operators, private owners, private pilots and even licensed mechanics—in fact every class of licensed personnel outside of scheduled airline operations.

The movement was started with a suggestion to the U. S. Junior Chamber of Commerce that a meeting of fixed base operators be called. Notices were sent out, but due to lack of time, representation was inadequate. Those who did respond worked for three days in an attempt to arrive at conclusions and mutual agreements which would bring about organization of an association to present a solid front in any matter of regulation or legislation affecting them.

The consensus as developed was that there is need of a national organization which should include owners of all planes not engaged in scheduled operation; all pilots, except air line pilots; all fixed base and non scheduled operators and even the mechanics employed, inasmuch as their interests were identical. It was regarded as essential that they be backed by the weight of numbers and a wide national representation if any good were to be accomplished; that the fixed base operators, numbering possibly 500, represent too small a group to be effective as against the well organized Air Transport Association.

One prominent operator, speaking of the recent regulations promulgated by the Bureau of Air Commerce said, "We have no quarrel with the Air Line Operators Association or with the Bureau. What has happened is largely our own fault in that we failed to have organized representation present at the conference. The air line officials could not be expected to present anything other than their side of the situation and the Air Commerce officials could not anticipate our needs in the absence of representation on our part."

"The new regulations do work a hardship on all non-scheduled flying. Now there is a movement on foot which, if it develops, will practically result in running us off any airport on which there is air line operation. We do not want special privileges and, if our organization comes into being, we will carefully avoid seeking special interests. It is merely an attempt on the part of an unorganized majority to organize and protect their rights."

Another meeting will be called, probably within 30 days, at which it is hoped, a permanent organization may be formed. In the meantime those present at the meeting have been asked to discuss the situation with all licensed men and report their findings. Those east of the Mississippi River will report to Hugh Robbins, of the H. C. Robbins Co., Cleveland. Westerners will communicate with Hal Henning of Booth-Henning, Inc., Dallas, Texas. These two will then call the meeting if the replies warrant it. R. K. Branch, of the Junior Chamber of Commerce of the United States, presided at the sessions held here.

### Gates Named Assistant

Samuel E. Gates was recently appointed assistant to George Vest, chief of the regulation and enforcement section of the Bureau of Air Commerce. Gates was formerly a partner in the law firm of Gates and Inch in Los Angeles.





# The Birdmen's Perch

We want all birdmen, and future birdmen to feel welcome to light on this page whenever they feel like scribbling us a line or two. We get a great kick out of passing your stories along to others. But we can't print anything you say unless you remember to give us permission in your letters. Include permission next time, won't you?

MAJOR AL WILLIAMS, alias "Tattered Wing-Tips," Mgr., Gulf Aviation Dept., Gulf Aviation Products, Gulf Bldg., Pittsburgh, Pa.

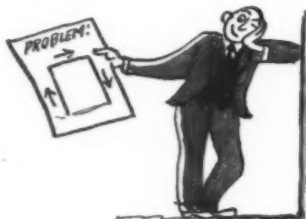
## PENN. CENTRAL AIRLINES CHOOSE GULF AIRLINE OIL

The Pennsylvania Central Airlines, crack eastern transport company operating between Washington, Buffalo, Detroit and Milwaukee, are now feeding their planes 100% Gulf Products—having just recently added a contract for Gulf Airline Oil to their existing Gulf Gasoline contract!

Gulf Airline Oil is blood-brother in quality to the famous Gulfpride Oil used in private planes and fine motor cars. Both are super-refined by the patented Alchlor Process—the process by which Gulf takes premium grade, 100% Pennsylvania Oil, and then proceeds to even further refine it—yanking out as much as one-fifth more sludge and waste.

## MORE BUGHOUSE NAVIGATION

Tattered Wing-Tips feels a little silly about this. But so many readers asked for another brain-teaser, just blame it on them. Here goes:



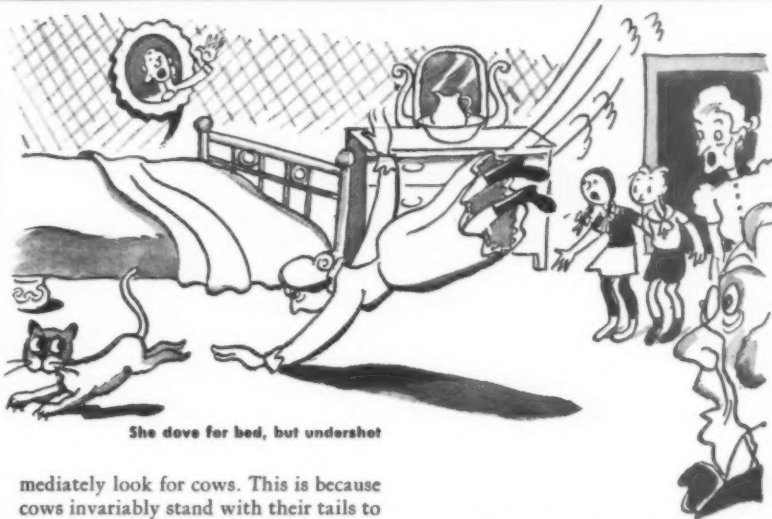
A plane with a speed of 100 m. p. h. travels due north for 100 miles. It then turns and travels due east 100 miles. Again it turns, and travels due south 100 miles. There is no wind at any point in the trip, but the plane found itself back exactly where it started.

How could this happen?

(You'll be mad as a hornet when we give you the answer. But drop us a line anyway, if you'd like to know it. P.S. Don't forget permission to reprint your name—T.W-T.)

## MODERATE, WESTERLY MOOS

"Dear Al: A pal of mine from the Argentine claims that birdmen in his country have developed a lot more resourcefulness than we have. He says, 'When flyers down there encounter engine failure, they im-



She dove for bed, but undershot

mediately look for cows. This is because cows invariably stand with their tails to the wind, and aviators who are aware of this fact have found it of immeasurable assistance in forced landings'." —L. C.

## SHORT STORY

(December 6, 1937) "Dear Mr. Wing-Tips: I'd like to know the answer to the little problem appearing in Birdmen's Perch . . . concerning the birdman, the church steeple and the balloon.

"According to my figuring . . . it's impossible to find the speed of the wind with what is given. I had my college math prof verify this, so don't argue."

—Charles T.

(December 22, 1937) "Dear Mr. Wing-Tips: Thanks very much for the solution to the problem appearing in Birdmen's Perch. I now have the privilege of showing my professor where he was in error."

—Charles T.

Frankly, when Tattered Wing-Tips started that toy balloon over the steeple, he had no idea how many birdmen would take pot shots at it. We want to thank, for their interest, Messrs. A. Muhs, C. S. Roberts, Ralph Hester, Wm. Allen, C. Tracy, V. U. Young, Hayes Armbrust, Joseph Hogan, R. H. Freed, W. B. Henderson, V. H. Anderson, E. McDivitt . . . and a whole horde of others who forgot to give us permission to mention their names. —T.W-T.

## THIS MONTH'S WHOPPER

It's gospel truth, and here it is:

The story of grandma's rheumatiz. The doctor said, on mercy bent, "Rub 'er joints with linament!" We greased her joints, her fins and rudder (And through grandma there ran a shudder). She shook and groaned, and off she hopped! Away she zoomed! Before she stopped She looped around the chandelier And hedge-hopped over the chiffonier. "Whoopee!" she chirped, then lost her speed (We gasped in fright at what we seed!) She dove for bed, but undershot (And china broke all o'er the lot!) She scrambled out a-spittin' fire— Seemed like her flight had riled her ire— "Rheumatics gone, Hoo-Ray!" croaked she, What kind of lin'ment can that be?"

We smelled of the bottle—you've guessed it, Alas! We had rubbed her with GULF AVIATION GAS!

—Dorothy Tibbet  
Aroostook Flying Service, Turner, Me.

Gulf Oil Corporation and Gulf Refining Company . . . makers of



**GULF  
AVIATION  
PRODUCTS**

## N. A. A. Gets New Lease on Life; Exec. Committee Takes Control

New 1938 Program Laid Down Following Chicago Meetings; Horner Resigns as General Manager; Aldrin, Webster and Enyart in Saddle

Following a two-day session at the Hotel Blackstone in Chicago, Jan. 30 and 31, the newly-established executive committee of the National Aeronautic Association announced a new program for the organization which bids fair to give the N. A. A. a new lease on life with an entirely new organization set-up.

It was probably the first time that a group composed principally of members of the aviation industry had sat down for an extended period of time to examine the purposes of the organization and outline a practical program. Members are optimistic about the chances of the revitalized N. A. A. in succeeding in its new program.

The N. A. A. is now in the hands of the executive committee of thirteen which has full power to make policies and appoint personnel, thus eliminating much of the cumbersome administrative machinery of the organization which has hindered operations and activities in the past.

Twelve of the thirteen executive committee members were present at the Chicago meetings. They were Col. John H. Jouett, chairman; Al Lodwick, director of public relations for the Curtiss-Wright Corp.; Oliver Parks, president of Parks Air College; Al H. Near, vice-president of the Air Reserve Association, Louisville, Ky.; Arthur S. Dudley, executive manager, Sacramento Chamber of Commerce; Capt. James E. Webb, U. S. Marine Corps Reserve, Sperry Corp.; Grove Webster, treasurer of N. A. A. and president of the Airport Directory Co., Hackensack, N. J.; Col. J. Carroll Cone, manager, Atlantic Division, Pan American Airways; William R. Enyart, secretary of N. A. A.; Major E. E. Aldrin, vice-president of N. A. A.; Major Floyd E. Evans, director of aeronautics for Michigan; and Charles F. Horner, president of N. A. A. Only absent member was Richard C. Dupont, president of Soaring Society of America.

The executive committee has the resignation of Charles F. Horner as general manager of N. A. A., which is a salaried position, although Mr. Horner will remain as president without salary. He will have a drawing account.

A sub-committee, composed of Major E. E. Aldrin, Grove Webster, and Bill Enyart, was named to make a study of headquarter staff requirements for the new year and to make recommendations regarding the necessary staff at the next meeting of the executive committee, which will be held at the association headquarters in Washington on March 5 and 6. In the meantime a firm of certified public accountants will have completed a study of the association's financial books for the last seven years.

Part of the new program for 1938 involves setting up of the following sections within the N. A. A., each with departmentalized budgets: Aeronautic Coordination, Youth Aviation Education, Air Defense, Private Flying, Airports and Seaplane Bases, and Non-Scheduled and Fixed Base Operations. The committee indicated that a priority list was established in order that the first funds raised for the 1938 budget will be allocated to the most important and pressing objectives.

The committee announced the following action had been taken at the Chicago sessions:

1. To request the Secretary of Commerce to appoint an advisory committee

on private flying and convene this committee at the earliest practical time to consider desirable changes in the requirements for certificates of pilot competency, and the effect of air traffic regulations on private flyers.

2. The committee urges all N. A. A. chapters, members of the Association, and affiliated organizations to encourage the immediate enactment of legislation to provide for the issuance of certificates of convenience and necessity to airlines and to provide federal funds for airport construction and maintenance.

3. The N. A. A. contest board is instructed to make a new study of closed course racing, with a view to increasing its safety and its potentialities for the advancement of aeronautical science.

4. The committee urges all chapters, N. A. A. members, and affiliated organizations to encourage young men, between the ages of 19 and 26, to give serious consideration to entering the flight training courses offered by the Army, Navy and Marine Corps for the valuable training they will receive and for the service they can so render at this time to the national defense.

5. The committee urges the officers of all aviation organizations to send representatives to the initial meeting of the National Aeronautic Coordination Committee, authorized by the first National Planning Conference, which has been tentatively set for March 7 at Washington, D. C.

The association will function for the present without a general manager, although it is expected that a manager will be appointed in March.

## Devon Francis Wins TWA Reporting Award

Devon Francis, national aviation editor of The Associated Press, was selected winner of the TWA annual newspaper aviation trophy for "consistently developing the best informed writing" during 1937 on the subject of air transportation. Formal presentation of the large silver trophy and a cash award of \$250 was made in Washington February 10 by Col. J. Monroe Johnson, Assistant Secretary of Commerce, one of the five judges.

Reginald M. Cleveland, aviation editor last year of *The New York Times*, now automobile editor of the same paper, and C. B. Allen, aviation editor of *The New York Herald Tribune*, received first and second honorable mention respectively. In addition to Col. Johnson, the judges were Col. Edgar S. Gorrell, president of the Air Transport Association; Leighton W. Rogers, president of the Aeronautical Chamber of Commerce; Charles F. Horner, president of the National Aeronautic Association, and Jack Frye, president of TWA.

Forty-two entries were received. The committee praised especially the entry of the *Amarillo Globe-News*, which comprised aviation coverage by six staffers on the newspaper. On Feb. 7 Clancy Dayhoff, general manager of the TWA news bureau, who sponsored the contest, announced that two awards will be made in 1938, one for newspapermen and the other for aviation magazine writers. Dayhoff was exceedingly well pleased with the interest in the first contest, entries being made by almost every important newspaper in the country, and including such publications as *The Wall Street Journal* and *The Christian Science Monitor*.

Mr. Francis appeared on AMERICAN AVIATION'S 1937 honor roll.

## SENATE ASKS SIX NEW MAIL ROUTES

Also Recommends Appropriation For Added Service On United and TWA

Following hearings held Jan. 27, 1938, the Senate Appropriations Committee recommended certain changes in the House 1939 Treasury and Post Office appropriation bill, among them an increase of \$985,177 for the establishment of certain new air mail routes and for additional schedules on other air mail routes.

Routes which the Senate recommends be established during 1938 and continued in 1939 include the following: from Jacksonville, Fla., via Tallahassee and Mobile to New Orleans; from Brownsville, Texas, to San Antonio and Houston; from Wichita, Kansas, to Pueblo, Colo.; from Detroit to Sault Ste. Marie, Mich.; from Tampa, Fla., via Birmingham, Ala., to Memphis, Tenn., and from Phoenix, Ariz., to Las Vegas, Nev.

These routes will cost \$585,177 and the remaining \$400,000 is for an additional mail schedule on United Air Lines' route between Chicago and Salt Lake City, and for an increased frequency on TWA. The section of TWA's route to be increased was not specified by the Senate committee.

The Post Office Department had sufficient funds to advertise some new routes in 1938, but did not have an appropriation to continue them into 1939. Senators had been told that the 1939 appropriation bill, which asked for \$15,800,000 for contract mail service, did not provide for establishment of any new routes, and that if they were wanted, the Senators would have to find the money.

Politics, of course, had something to do with which new routes the Senate recommended. The Post Office had planned to advertise the Brownsville-San Antonio-Houston route last year, but withdrew the advertisement when Braniff Airways protested that it would reduce its business out of Brownsville 50% if another contractor were awarded the route. However this route is among the Senate recommendations.

Last year the Senate had recommended that United be awarded a fourth mail schedule between Chicago and Salt Lake City, but the House conferees did not agree and the increase was not granted. On Dec. 21, 1937, the Post Office issued a temporary letter authorizing extra sessions on air mail schedules when the mail load exceeds 1,200 pounds. The arrangement is only good for 90 days, however.

If the committee's recommendations are approved when the bill comes up for a vote in the Senate, the bill then goes back to the House. If the House agrees to the Senate amendments, the bill is passed. If representatives disagree, conferees are appointed from both houses to work out a satisfactory agreement.

## To Buy Helium Sources

Privately owned helium properties near Dexter, Kan., and Thatcher, Col., are to be bought by the government soon to supplement the U. S. supply from the large plant near Amarillo, Tex., it was revealed in Washington Jan. 29. The additional gas will be sold to persons other than the Army, Navy, and research establishments—which are supplied by Amarillo.

BOSTON, Feb. 3.—Admiral Richard E. Byrd tonight announced plans for another south polar expedition in 1939.

## Airlines Protest I. C. C. Amendment To Payment Scale; Ask Revision

The Interstate Commerce Commission on Feb. 3 reopened hearing on Air Mail Docket 1-16-18. It was this docket that originally set the scale by which the airlines were to be paid for carrying the mail. On June 14, 1937, the docket was amended and it is on this portion that the airlines had protested.

Gerald Brophy, counsel, appeared for TWA and Eastern Air Lines, Paul Godehn represented United Air Lines, John Wynne appeared for Western Air Express, Continental and Hanford, and Carlton Putman for Chicago and Southern. William C. O'Brien was the Post Office's legal representative.

The Commission's order of June 14, last, provided that "the compensation payable under any rate so determined shall not exceed the minimum compensation payable under the next lower rate so determined." The entire proceeding is extremely complicated and involves the sliding scale used by the I.C.C. which provides that when an airline increases its mileage 10%, its payment is reduced one cent.

With the scale as it is now, the airlines state that under certain conditions, they receive less money for flying more miles. As an example, TWA, receiving 24 cents a mile for flying 600,000 miles, totals \$154,000. If the mileage increases 10% to 660,000, it would receive 23 cents a mile or a total of \$151,800.

In effect, the airlines want the Commission's order reversed so that it reads: "The minimum compensation under any rate bracket shall not be lower than

the maximum compensation under the next higher rate bracket."

This, if granted, would provide, for instance, that the maximum payment under the 24-cent bracket, on a basis of 600,000 to 660,000 miles, would be \$158,399 instead of \$151,800, as it is now. The former figure is determined by multiplying 659,999 by 24 cents, while the latter figure is based on 660,000 times 23 cents.

It is believed that while one figure is to the advantage of the Post Office, the other extreme favors the airlines. If the Commission can find justification for a middle course, it is believed that this will be the result.

O'Brien requested that further hearing be postponed until Feb. 24 in order to give him time to study figures presented by the airlines and prepare statistics of his own.

## Dean New Traffic Head

Philadelphia, Jan. 30.—D. E. Dean has been appointed district traffic manager for United Air Lines here to succeed M. P. Bickley, who was promoted to a similar position with the line in New York. Dean entered aviation in 1933 when he was named UAL traffic representative in Chicago. He will be in charge of sales and advertising in Pennsylvania, Delaware and southern New Jersey.

UNITED AIR LINES engineers are installing equipment to flash observatory-checked time signals every hour to airport radio stations, which will transmit them to planes and intermediate airports.



## NO 1937 CHENEY AWARD

## Board Finds No Case Meriting \$500 Grant

The \$500 Cheney Award for "an act of extreme fortitude or self sacrifice in a humanitarian interest in connection with aircraft in the Army Air Corps" will not be made for the year 1937, Maj. Gen. Oscar Westover announced Jan. 20.

"While there were several instances where air corps personnel performed heroic feats, the board of officers appointed by the chief of the Air Corps after careful consideration recommended that no case exactly satisfied nor distinctly merited the grant," it was said.

The award was established in memory of Lieut. William H. Cheney, Air Corps, killed in an air collision at Foggia, Italy, Jan. 20, 1918. Donors are the mother and sister of Lieut. Cheney. The award has been made annually since 1927, except for 1930 and 1934.

## MONTREAL FLYERS ELECT

## Government Praises Growth of Cross Country Activities

Montreal.—Douglas Cushing has been elected president of Montreal Light Aeroplane Club for 1938, succeeding D. P. Mowry. Other new officers: Capt. G. R. Beck and R. Simard, vice-presidents; Leslie Choyce, honorary secretary-treasurer; A. A. Monson, F. W. Dougherty, W. R. Couture, C. H. Kenyon, H. Wisenthal and D. D. Thompson, directors.

Pilots of the club booked 1,047 flying hours in 1937, including 371 hours dual instruction, 270 hours solo, 330 hours passenger flying, and the rest test flying. Federal aviation officials commended the club for developing cross country flying, representing about 18,000 miles of air travel by members last year.

## Ground Radio System Completed On Trans-Canada, Western Division

Rapid progress in radio construction and pilot training was announced by Trans-Canada Air Lines Feb. 1. Scheduled test flying is underway on two divisions.

Ground radio equipment is in operation at Winnipeg, Regina, Lethbridge, Cranbrook, Oliver and Vancouver, practically completing two-way communication on the western section. Powerful Marconi-built radio beacon stations operate in conjunction with radiophones, the a-n signal system being used. Beacon equipment at each station consists of a 400 watt intermediate transmitter, goniometer, antenna tuning house, remote control unit, and station house control.

The transmitter delivers 400 watts carrier power (CW) which may be telegraphically keyed or voice or tone modulated essentially 100 per cent. The continuously variable frequency range is 200 to 400 kc.

The system is designed to operate as a radio range beacon or telephone broadcast transmitter using four 125-ft. insulated steel towers as radiators.

Pilots are making scheduled flights between Winnipeg and Lethbridge, and from Lethbridge over the Rockies to Vancouver, with regular operating procedure in effect, even to flight plans, clearance authorizations and flight reports. In weekly meetings, operating problems encountered during the previous week are discussed and conclusions reached for future procedure.

Twenty-four pilots are either flying or undergoing training. Three are on the daily service from Vancouver to Seattle, two are assisting with instruction. Training is in six stages—instruction in mechanical function of equipment, primary Lockheed flying instructions, instrument flying, local radio

range flying, local night flying, advanced instrument and radio range (cross country) flying. Seven men are now in stage six.

Six pilots recently were transferred from the Lethbridge-Winnipeg division to the Vancouver-Lethbridge route, and during bad weather over the Rockies will make training flights between Vancouver and Seattle.

Nucleus of the communications department and maintenance and repairs staff numbers 46 men. Seven dispatchers and radio operators are at Winnipeg, one at Regina, one at Lethbridge, one at Vancouver. Four technicians are at Winnipeg and one at Vancouver. Air engineers, mechanics and others at Winnipeg, Regina, Lethbridge, and Seattle comprise the maintenance and repairs staff of 31. In addition, five men are in the stores and property department at Winnipeg and one at Lethbridge.

Despite winter conditions, construction of hangars at Winnipeg and Lethbridge continues and will be completed in April, Philip G. Johnson, vice-president, asserted.

Each Trans-Canada airport will have one beacon and about 60 boundary lights, electricity being supplied by Diesel powered generators started and stopped according to intensity of daylight.

## U. A. L. Settles Suit

CHICAGO, Jan. 27.—United Air Lines yesterday settled a \$400,000 suit based on death of John Cushing, former president of the Great Lakes Dredge and Dock Co., for \$32,500. Cushing was killed Oct. 7, 1935, in a crash 10 miles west of Cheyenne.

ERNEST BARRY, district adviser for the Bureau of Air Commerce, has moved his office from Salt Lake City to Denver.

## Pan Am Traffic Rises With New Extensions

Preliminary traffic figures for 1937 reveal that growth in Pan American Airways traffic has more than kept pace with the large expansion in its route mileage since 1934, an expansion principally caused by entrance of the trans-Pacific field.

Contrasting with figures for 1934, route mileage operated last year was 48% larger, passenger miles flown were up 127% and passenger miles per mile of route were 54% greater. Since 1929, when Pan Am was operating 12,265 route miles, the system's passenger traffic density has increased 4½ times. The domestic airlines, by comparison, averaged about 15,000 passenger miles per route mile during 1937.

PAA is operating 140 transport aircraft. New equipment placed in service last year was valued at about \$3,000,000 and included nine Douglas DC-3 high altitude overland transports, six twin-engined Sikorsky S-43 amphibians and three 4-engined Sikorsky S-42Bs of the Bermuda Clipper series.

Of the 50,695 route miles operated, 29,300 are under governmental air mail contracts. In the government fiscal year ended June 30, 1937, the line received air mail pay of \$6,428,260 from the Post Office Department, exclusive of \$1,377,017 paid to the affiliated Pan American-Grace Airways which brought the total air mail pay for the system to \$7,805,277.

Increase during the 1937 fiscal year resulted principally from a year's operation of the air mail route between San Francisco and Manila, payments for this route having been \$1,555,369 as compared with \$437,913 in the preceding fiscal year.

PULLMAN, WASH.—Kent Eichenberger has announced formation of the Kent Aircraft Co., which will distribute Taylorcraft in eastern Washington. Dealer outlets in Walla Walla and Spokane are contemplated.



## 1938 FINDS GENERALS OUT IN FRONT AGAIN

● The same unique quality that makes General Airplane tires first choice for strenuous military service makes them first choice in commercial flying where there can be no compromise with safety.

## Prominent Users of Generals

Army	Navy
Stearman	T. W. A.
Beech	Pennsylvania Central
Piper—"Cub"	Air Lines
Curtiss	Seversky
Braniff	Chance Vought
Monocoupe	Fairchild

GENERAL TIRE & RUBBER CO. • AKRON, OHIO

**GENERAL** *Airplane Tires*  
KNOWN ROUND THE WORLD FOR SAFETY!



# Air Mail Pay Slash Argued

**I. C. C. Holds 2-Day Hearing, Uncovers Facts on Foreign Air Mail; If Post Office Figures Are Accepted, Air Lines Face \$2,232,000 Cut, July 1**

**T**HE HIGHLY important Air Mail Docket 19 was reopened for hearing in the Interstate Commerce Commission Feb. 1-2 before Examiner Louis R. Inwood. The hearing was held in compliance with the Air Mail Act of 1934, which requires the I.C.C. to fix and establish rates "designed to keep the aggregate cost of the transportation of air mail on and after July 1, 1938, within the anticipated postal revenues therefrom" (AMERICAN AVIATION, Jan. 1).

The primary purpose of the hearing was to determine what should be included in the 1939 aggregate cost of air mail to the Post Office and also as to what constitutes a fair picture of revenues accruing from air mail. The airlines, of course, sought to prove that the two items would bear a balance, while the Post Office claimed that expenditures would exceed revenues by more than \$2,000,000.

Among figures brought to light during the hearing were those pertaining to foreign mail carried on domestic airlines. Added light was thrown on 1937 payments to contractors when on Feb. 4, two days after conclusion of final argument, the printed hearings on the Treasury and Post Office 1939 Appropriation Bill before the Senate subcommittee of the committee on appropriations were released.

Howard C. Westwood, 28-year-old lawyer, appeared as counsel for all airlines, while William C. O'Brien, attorney under Solicitor Karl A. Crowley, represented the Post Office in a legal capacity.

## P. O. Surprises

Contrary to all expectations, the Post Office Department did not ask its 1939 estimate for all total related expenditures for air mail be accepted, but instead presented only what it called the "estimated direct expense." This latter figure totals \$16,982,000 as against a total related expenditure figure of \$22,093,000, a difference of \$5,111,000. The P. O. had formerly leaned toward the \$22,093,000 figure, and submission of a lower one came as a surprise.

Anticipated postal revenues for domestic air mail for 1939 were given by the P. O. as \$14,750,000, so that if the I.C.C. were to accept P. O. figures, the airlines would be in for a \$2,232,000 slash in mail pay.

Westwood, on the other hand, disputed every figure the P. O. submitted, and questioned the methods by which such figures were obtained. Only two witnesses were called to testify during the hearing and both were employees of the Post Office. A. A. Clayton, superintendent of the bureau of cost ascertainment, was the first witness, and he was followed by Charles P. Graddick, superintendent of air mail.

Clayton, when asked to explain how the estimated 1939 revenue figure had been obtained, explained that two count periods of the present half-complete fiscal year 1938 had been used. Estimates are always based on four counts conducted during representative weeks but this was naturally not possible for purposes of this case, because of the incomplete fiscal year. Clayton asserted that the ascertainment count was taken at 300 post offices, whereas there are 46,000 in the United States, but claimed that the 300 produce almost all originating air mail.

## Slight Increase Anticipated

The revenue figure submitted for 1939 is an estimated 7.468% increase over 1938 and represents, in Clayton's opinion, a "leveling off." This low

estimated increase compares with 47.244% for 1936 over 1935, 28.208% for 1937 and 10.333% for 1938. These past large increases were attributed by Clayton to reorganization of the air mail service, lower postage rates, and more extensive advertising on the part of the P. O. He stated his belief that from now on, revenues will be more stabilized than in the past.

"Direct expenditures," as submitted by the P. O. for 1939, included payments for contract air mail service of \$15,800,000, plus expenditures for rail transportation, mail messenger service, vehicle service and railway mail service, making a total of \$16,982,000. These items, states the P. O., have to do with transporting air mail to airports and other costs connected therewith.

Westwood first attacked the revenue figure, calling it "not nearly high enough." He did not believe a count of originating air mail at 300 post offices could be taken as representative of 46,000. He also stated that an estimated increase of 7.468% for 1939 allowed only for normal growth and did not take into account P. O. advertising and other pertinent factors.

Expenditures by the P. O. were particularly questioned by the airlines' lawyer, who sought to prove that items other than payments to contractors were in no case direct costs and should therefore be excluded. Westwood reviewed legislative hearings as far back as 1930, quoting passages to prove that costs of mail messenger service, etc., were never considered as direct costs. Furthermore, he stated, the Air Mail Act of 1934 was never worded to provide that such costs should be considered at this hearing. He went on to question the \$15,800,000 payment for contract air mail service for 1939, calling it too high on the grounds that certain operating expenses of the air mail bureau, auditing expenses, and other items were included.

## Various Figures Given

It seems certain that, at this point, had the Senate hearings on the Post Office 1939 Appropriation Bill been available, they would have played an important part. A table prepared by the P. O. for the A. M. Docket 19 hearing, gave the "contract air mail service" payment for 1937 as \$12,984,000. However, before the Senate committee, the following testimony was heard:

**MR. GRADDICK:** Payments to the contractors for the fiscal year 1937 amounted to \$12,891,288.70; air mail postage revenue for the same year was \$12,439,579.24; a difference of only \$451,709.46.

**SENATOR HAYDEN:** The Department, then, came within a half million dollars of balancing its air mail budget.

**SENATOR McKELLAR:** That is gross revenue and only the amount payable to the contractors?

**MR. GRADDICK:** The direct cost for the fiscal year 1937; that is, expenditures which could be discontinued if there were no air mail service.

**SENATOR McKELLAR:** What I want to find out is the net difference.

**MR. GRADDICK:** Direct expenditures for 1937 amounted to \$14,078,400.85, an excess of direct expenditures over revenue of \$1,638,821.61.

The pertinent point that Westwood could have called to the attention of the Examiner was that no where in the P. O. 1937 figures submitted for the case, did the sum \$12,891,288.70 appear; instead payments to the contractors were given as \$12,984,000, a difference of \$92,711.30. Upon this, he could have attacked the \$15,800,000 figure given as payments to contractors for 1939, claiming that it was almost \$100,000 too high.

The long discussed and controversial question of foreign mail traveling over a domestic air mail route was raised and may play a more important part than was expected. Clayton stated that foreign mail which travels over a domestic air mail route is not included in P. O. air mail revenues. It appears, however, that it is considered as an expenditure to domestic air mail. It was stated by the P. O. that the volume of this mail was negligible.

## Revenues Near \$15,000,000

Upon this question, however AMERICAN AVIATION is reliably informed that approximately \$150,000 to \$200,000 worth of foreign mail is thus carried per year and is credited to expenditures but not revenue. Such being the case, estimated P. O. revenues for 1939 would be near \$15,000,000.

A somewhat humorous note was projected into the hearing when Graddick refuted several assertions made by Clayton, stating that the latter's estimated 1939 revenues were "a trifle low." When O'Brien asked him if it were not true that the airlines were carrying less mail now than formerly, Graddick replied that on the contrary, all lines were transporting considerably more than at any other period. He also stated that, according to his pound-mile estimates, revenues would not level off.

In final argument, Westwood emphasized his statement that aggregate cost entailed no costs other than payments to contractors, and that foreign mail, auditing expenses, mail messenger service, etc., should be eliminated entirely. He called Clayton's estimated revenue figures "purely mechanical estimates, not based on actual conditions and not allowing for growth. They are based on incomplete returns. There will be no 'leveling off.'" He concluded his statement by saying that, in his opinion, "1939 revenues will exceed payments to the carriers."

A battle of words took place over the meaning of "subsidy." O'Brien disagreed with Westwood's interpretation, stating that it was not the difference between revenue and expenditure. "There will always be subsidy," O'Brien said, "as long as it costs so much more proportionally to carry the mail than it does to transport passengers."

## O'Brien Supports Clayton

In answering Westwood's arguments, O'Brien upheld Clayton's estimates, pointing out that the latter's estimate for 1937 was within 3% of the actual

figure and that there was every reason to believe it would be as accurate for 1938 and 1939. He further stated that mail messenger service and other items were legitimate direct costs and should rightfully be included as such. O'Brien supported Clayton against Graddick by stating that, "The boom is over; we are beginning to level off."

Just why the Post Office submitted a lower direct cost figure is not known at this time. It is believed by some parties that it was an honest effort to cooperate with all parties concerned, the P. O. realizing that insistence on a higher related cost total, if granted, would force every airline out of business with better than a 50% mail pay slash. The P. O. presented three specially prepared tables showing revenue estimates, comparison of past estimates and final figures, and details of past expenditures, with the latter table broken down as to what the P. O. considered direct and indirect costs.

The airlines did not submit tables as to payments made to them in the past, but confined themselves to making certain suggestions heretofore mentioned as to ascertainment of aggregate cost and postal revenue.

The result of the hearing is that the Post Office insists 1939 payments for domestic air mail will exceed revenues by \$2,232,000, while the airlines state the figures will be much closer with the possibility of revenues exceeding expenditures.

Examiner Inwood, from the mass of testimony presented, must now determine just what should be considered in estimated Post Office revenues for 1939. After he reaches a figure and submits his proposed report, both parties may file exceptions, after which the I. C. C. issues its final decision.

## Fair Hires Bronte

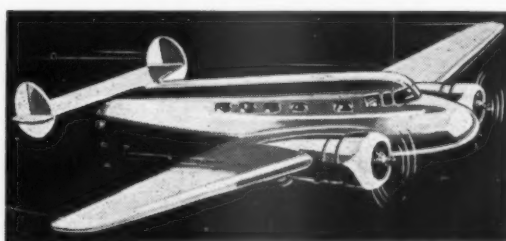
Emory Bronte has been placed in charge of aviation displays for the Golden Gate International Exposition of 1939. Bronte was navigator on one of the first flights from San Francisco to Hawaii.

Burley, Idaho—Vern Oliver and A. M. Solomon are new distributors for Taylorcraft planes here.

New Orleans, La.—The newly formed Aircraft Enterprises, Inc., has been appointed state Cub distributor.

Waterville, Me.—Airways, Inc., northern New England Cub distributor, took delivery on its 45th Cub exactly a year after being appointed representative here.

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## Institute of Aero Sciences Meets; Comprehensive Program Draws 200

Columbia University Scene of Sixth Annual Series of Aviation Progress Reports; T. P. Wright New President

More than 200 aeronautical scientists and engineers of the Institute of the Aeronautical Sciences convened at the Pupin Physics Laboratory, Columbia University, New York City, on Jan. 25, 26, 27, 28, for the 6th annual meeting. Sixty papers were presented by specialists disclosing advances made in each field during 1937, the most comprehensive program in the Institute's history.

The schedule of discussions: Monday, Structures, Instruments Symposium; Tuesday, Rotary Wing, Lighter-than-Air, Meteorology, Power Plants and Propellers; Wednesday, Aerodynamics-Wind Tunnel Test Reports; Thursday, Air Transport, High Altitude Flight.

T. P. Wright, vice-president in charge of engineering of Curtiss-Wright Corporation, was elected president of the Institute at the business meeting Jan. 25.

Other officers are: Vice-presidents: Sherman M. Fairchild, president of Fairchild Aviation Corp.; J. H. Klinkelberger, president of North American Aviation; Prof. E. P. Lesley, Stanford University; William Littlewood, vice-president of American Airlines; George Mead, vice-president of United Aircraft Corp.

Treasurer: Elmer A. Sperry. Secretary: Maj. Lester D. Gardner. Institute council: Dr. J. H. Kimball, U. S. Weather Bureau; E. E. Wilson, vice-president of United Aircraft Corp.; Arthur Nutt, vice-president of Wright Aeronautical Corp.; B. C. Boulton, vice-president and chief engineer of Glenn L. Martin Co.

A non-technical summary of highlights during the four-day convention follows:

### Monday

In discussing long range aircraft, Dr. J. C. Hunsaker, of Massachusetts Institute of Technology, said non-stop trans-Atlantic flying today seems to be the exclusive field of the airship, but that heavier craft will be flown non-stop eventually. He implied that land-type planes, assisted in take-off by means of a towline, would have an advantage in speed and payload over flying boats.

Tests made with bi-motored planes in which propellers on each ship revolved in contrary directions indicated this arrangement resulted in greater speed and stability of the planes and permitted them to reach higher ceiling. H. M. McCoy of Dayton, O., said.

Arthur Nutt of Wright Aeronautical Corp., discussing power plants of big planes, said engines are now so reliable that there is no reason for the trend to more than two motors. Propeller designers are falling behind the procession "because the weight of propellers for the higher type of engines is going up at an alarming rate."

Frank L. Malina and A. M. O. Smith of California Institute of Technology, described a scheme for shooting an exploratory rocket 967 miles high, success depending upon its efficiency and "motor." Plan calls for three parts, one within the other, to be exploded successively.

### Tuesday

E. Burke Wilford, of Pennsylvania Aircraft Syndicate, inventor of the vertiplane, said "It seems logical that rotary wing aircraft can more easily increase their high speed than fixed wing craft can reduce their landing speed."

Richard Prewitt, of Kellett Autogiro Corp., asserting that while the

giro could previously land on a spot but required a run of about 150-ft. for take-off, latest method of "jump-off" preparation is by overspinning the rotor with its blades set for no lift until they are rotating at about twice normal speed. Then the blade edges are suddenly and simultaneously raised and the giro is lifted off the ground. An all purpose craft capable of rising 100-ft. at the jumpoff could be readily supplied, he said, and a specially built ship is possible which would jump 200-ft., he revealed.

### Wednesday

Dr. Theodore von Karman and H. S. Tsien, California Institute of Technology, predicted theoretical speed of 600-mph. in the stratosphere if suitable methods of eliminating "drag" and of cooling engines can be found. High-altitude planes will not meet dense air resistance, but as upper air slips more rapidly past, friction and heat will become a difficulty. Air blowing directly on engines at such heights will heat rather than cool them, it was said. They proposed glass-smooth wings with no exposed rivet heads to cause air friction.

Three Massachusetts Institute of Technology experts C. S. Draper, Walter McKay, and W. H. Cook, presented a study of the "northerly turning error" of the magnetic compass for planes, pointing out that when a plane makes a turn the compass card may rotate with the ship so that the compass shows either a turn in the wrong direction or shows no turn at all. This peculiarity, they said, may have been responsible for some of the unsolved trans-Atlantic flight failures.

### Thursday

Capt. Harry G. Armstrong, M. D., director of the physiological laboratory at Wright Field, which is a part of the engineering section of the Air Corps, said one study revealed that 11% of all pilots, and 50% of those who had reached the age of 30, were suffering some form of functional neurosis or nervous breakdown. Physical breakdown resulted in retirement 10 years earlier than expected.

"In a large aircraft there is more to do in the cockpit than can reasonably be expected of anybody without possibility of error, especially under adverse conditions," he said.

"The number of accidents charged to 'pilot error' is by no means an index to the number of errors committed in the air. It is only in the mountainous regions where the clouds have solid cores that errors are brought to public attention."

A great cause of pilot fatigue, he reported, is the oxygen-want which develops in the human body even at present operating altitudes but which has no permanent effect on the casual passenger. He said chronic effects are seen only in pilots, but observed that "it is on the pilot that the success of the flight depends."

Dr. J. W. Heim, of the same laboratory, said "Altitudes to which man can ascend depend largely on rate of ascent and upon his physical condition. Without use of oxygen, unconsciousness occurs at 25,000-ft. and death will follow after exposure. This is due not to amount of oxygen on hand, but to reduced barometric

## TWO C & S APPOINTMENTS

Line Names Braun Operations Head and Edward Sweeney As Counsel

Bruce Braun, operations manager of Chicago and Southern Air Lines, has been elected a director of the company and vice-president in charge of operations, according to announcement by D. D. Walker, vice-president of traffic.

Mr. Walker also announced the appointment of Edward C. Sweeney as general counsel of the company assuming the duties of Amos Culbert, who resigned recently to become executive assistant to president of TWA, and of Oakleigh French, Inc., to handle advertising and publicity. Mr. Sweeney is a graduate of Williams College and of Northwestern University School of Law. In 1931 he was awarded the Air Law Institute Fellowship for research under Fred D. Fagg, Jr., then director of the institute. He has been associated for some time with the Journal of Air Law and with the Illinois Aeronautics Commission since its inception.

In 1932 Mr. Sweeney was assistant professor of law at the University of Louisville and since 1933 has been engaged in the general practice of law in Rock Island, Ill.

Well known in St. Louis and aviation circles, Bounds for four years was sales director of Park's Air College, aviation editor of *Sports-Afield*, and is known to listeners as the Air Topic Reporter on KMOX. Until recently he was with Scruggs-Vandervoort & Barney, St. Louis, as publicity director.

St. Louis, Jan. 28—George E. Bounds has been appointed general publicity director for Chicago & Southern Airlines to succeed L. A. Brookover, recently resigned, Carleton Putnam, C & S president, announced today.

Bounds is a member of the staff of Oakleigh R. French & Associates, advertising and publicity agents just named to represent the lines. Publicity offices of the airlines have been moved from Lambert Field, Robertson, Mo., to 4235 Lindell B'vd., St. Louis.

CHICAGO AND SOUTHERN Air Lines has furloughed until May 1 Lynn Carr, of the Chicago traffic office; F. J. Bixler, district traffic manager at Memphis, and Joe W. Letzkus, district traffic manager at St. Louis.

FAIRCHILD AVIATION CORP. announce unfilled orders of \$1,363,738 on Dec. 31 as compared with \$1,130,786 on Nov. 30 and \$1,050,535 on Dec. 31, 1936.

pressure which mechanically affects the person's body. Body fluids begin to vaporize and are removed from the body principally through the lungs. We have observed a loss of 15-lbs. after exposure of half an hour at 40,000-ft. altitude pressure."

## VULTEES KILLED ON MOUNT WILSON

Executive-Designer and Wife on Flight to California Home From New York

Gerald F. Vultee, 37, who, with his wife, Sylvia Parker Vultee, was killed when their plane crashed Jan. 29 eight miles north of Sedona, Ariz., and 20 miles from Flagstaff, near the summit of Mt. Wilson, was one of America's leading aircraft designers. At the time of his death he was vice-president and chief engineer of Vultee Aircraft division of Aviation Manufacturing Corporation.

Vultee was one of the first graduates in aeronautical engineering at the California Institute of Technology, completing the course in 1921 to join the draftsman staff of the Loughhead Company, now the Lockheed Aircraft Corporation of Burbank, Cal. Later he became chief engineer and directed construction of the first low-wing commercial planes with retractable landing gear to be built in this country.

Among other models he designed the Lockheed Orion before he organized and headed in 1932 the Aircraft Development Company at Glendale, Cal., with the backing of E. L. Cord.

The Vultee transports were widely used before the government ruled that mail must be carried by multi-motored craft. Afterward, he converted his transport into an attack plane and a bomber, which were widely used in America and abroad. It was said that in 1937 the Vultee factory had a \$4,000,000 backlog, including 40 large bombers purchased by the Amtorg Trading Corporation for shipment to Russia.

Recently he had been relinquishing duties as aircraft designer in favor of executive work with the export corporation. At the time of the crash he carried only an amateur pilot's certificate.

Mrs. Vultee who was 27, was the daughter of Max E. Parker, art director at Twentieth Century-Fox studios, Hollywood. They were married in December, 1934, and had one son, now six months old. As a wedding trip the Vultees flew from Los Angeles to Mexico City in a transport plane designed in the Vultee factory, establishing a record for the 1,670 miles of 8 hours 9 minutes.

ED BERN, publicity director for American Airlines, has met with unusual success in his plan of supplying a pictorial series to newspapers once a month. Returns indicate the related photos are being used for full-page splashes in Sunday editions of many newspapers. The plug for A-A in each case is not so obvious as to destroy the value of the photos for the papers.

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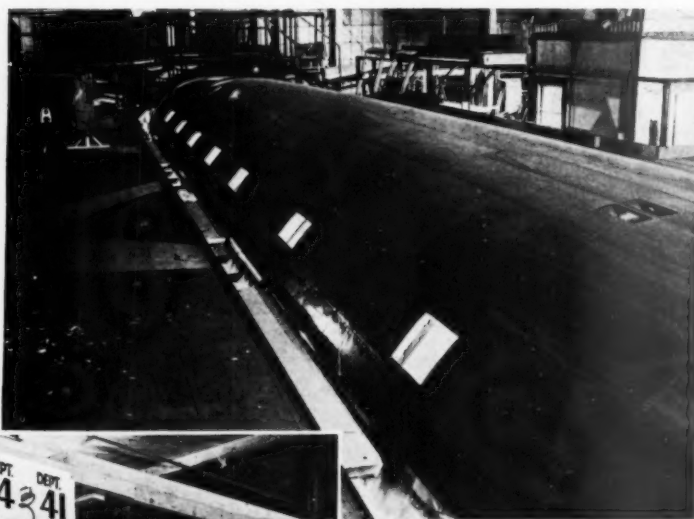


Bird's-eye view of fuselage (in foreground) and center section (in background) of the DC-4 at the Santa Monica plant. Production models will have super-charged cabins for so-called "substratosphere" flying, maintaining low-level atmospheric pressure for passengers' comfort while at high altitudes.

## The Douglas DC-4

On these pages are the first photographs of the Douglas DC-4, the first model of which is nearing completion at the company's plant at Santa Monica, Calif.

Built to the order of United, TWA, American, Pan American and Eastern airlines, the DC-4 represents a development cost of \$1,500,000. Designed to carry 42 passengers, powered by four motors, and with a gross weight of 65,000 pounds (32½ tons), the DC-4 will be America's largest landplane transport.



Most radical departure from previous transports is the tricycle landing gear which should prove a boon to passengers. This landing gear is expected to make for more efficient landings and better maneuverability at airports.

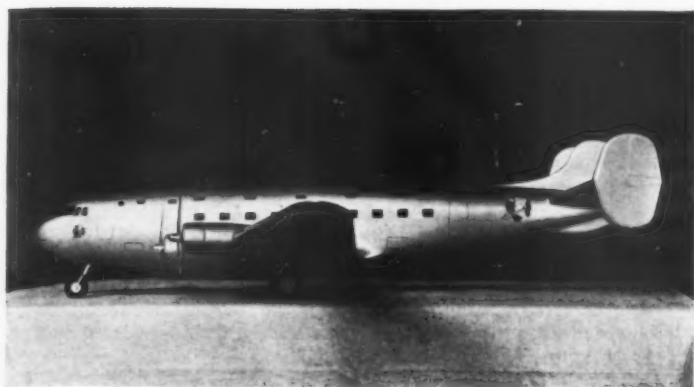
The DC-4 will have a cruising range of 2200 miles, an estimated high speed at most favorable altitude of 4 miles a minute and an absolute ceiling of 24,000 feet. Weight is almost three times that of the DC-3. Its useful load is 20,000 pounds. Company engineers are hoping for a 68-mile-an-hour landing speed.

More than 100 structural tests have been conducted, many centered around the tricycle landing gear, and particularly the nose wheel. Instrument landings are expected to be much more feasible and ground-looping, while not eliminated as a possibility, will be less likely.

At right, mechanics attaching fin to the tail-surface of the first DC-4 model.



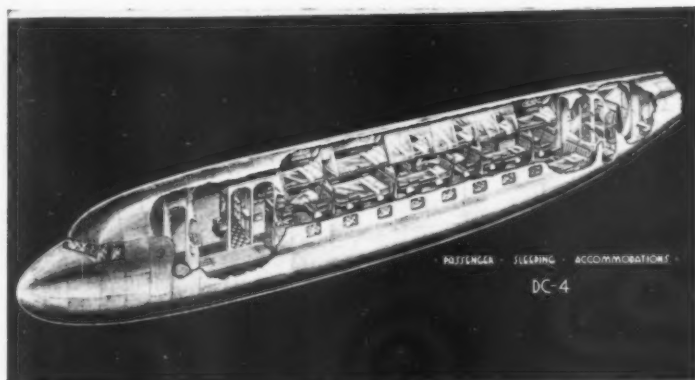




Model of the DC-4 showing tricycle landing gear arrangement



View of the model from above



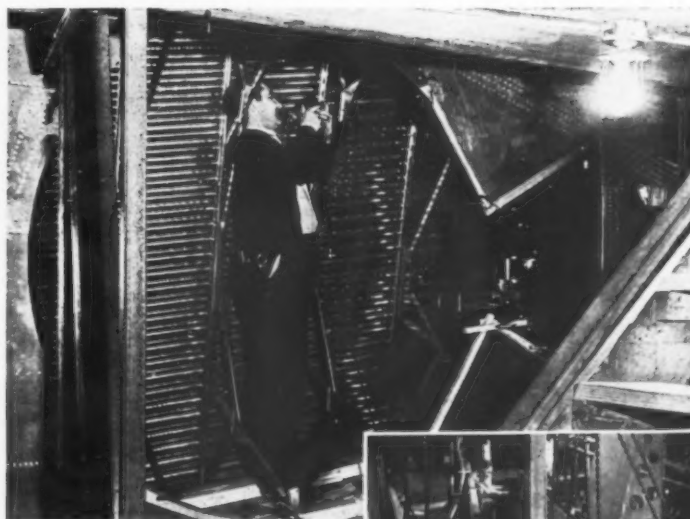
Interior arrangement showing berths



Comparison of the DC-4 with the smaller DC-3

#### Plan De-Icers for DC-4s

Akron, Ohio, Feb. 4—The B. F. Goodrich Company has announced that plans for de-icers to be used on DC-4s have been completed. De-icers for the 130-foot wings will consist of 10 sections of rubber tubing more than 104 feet long. They will operate by alternate inflation and deflation of a series of parallel tubes, seven in number. De-icers used on present planes consist of three tubes. With a width of 36 inches at the end closest to the cabin, the de-icers will taper to a width of 6½ inches, and including only one tube, at the wing tip. Leading edges of tail surfaces will be similarly covered.



Although no date for first tests have been announced, the DC-4 may make its debut at the time of the Pacific Aircraft and Boat Show in Los Angeles April 2-10.

Contract for the construction of this plane was dated March 23, 1936. Each of the five contracting airlines will have the opportunity to test the plane and by mutual agreement, each line is to be supplied with ships before any one line places it in operation. Hence it will be 1939—or later—before a DC-4 goes into scheduled airline operation.

The DC-4 will carry a crew of five, have a wing span of 138 feet and a length of 97 feet. It will tower 24 feet above the ground while resting on its landing gear. Its four air-cooled motors will supply 5600 h. p. for the take-off—more than 1,000 h. p. more than is required by most of America's finest streamlined locomotives to draw a heavy train on record-breaking runs.



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### \* FORTNIGHTLY REVIEW

(Continued from page one)

a basic New Deal for American aviation. For four years aviation's public has waited for desired expansion built municipal airports, passed uniform state aviation laws and built up enthusiasm through N.A.A. chapters and other local aero organizations. Expansion came to some communities slowly—to others not at all. Aviation's public waited.

When the President's Aviation Commission (Howell Commission) in 1935 recommended a New Deal through an independent aviation body, a wave of hope swept over the country. But the President then announced that he favored having air transport along with other forms of scheduled transportation in a remodeled Interstate Commerce Commission. The public's reaction was, in substance, "So may it be—give us anything that will bring air transport expansion and keep the airlines out of bankruptcy."

So the public waited and the airline operators prayed (in their own homespun fashion) for the Presidential leadership that didn't come in 1936. It still didn't come in 1937. But in 1938—finally it's here! The President has at last taken hold of the problem.

Shortly after the first of the year, the President called in the sponsors of the McCarran-Lea Bill which has proposed for two years to put air transport regulation under the I.C.C., where the President said (in 1936) he wanted it. He said to Mr. Lea that his mind has changed and that the I.C.C. was too slow to give the public their desired New Deal in aviation. He said to Senator McCarran that he (McCarran) had been right three years ago when he sponsored an independent aviation commission bill and suggested that the Senator consider going back to that idea. He said to Harlee Branch of the Post Office Department and to J. Monroe Johnson of the Commerce Department that they were reckless southern mountain boys and they should stop calling names at McCarran, Lea and the air transport boys. What the President said in substance to these last two men was, "There's an aviation issue, boys, but you wouldn't understand about that. Just follow me."

Well, the upshot of the past four weeks is that they're following him, and we don't mean perhaps. The White House has taken over the whole situation. Even the I.C.C. unwittingly played right into the President's hand by putting out an audit report stating that TWA had made an excessive profit one year. That threw a real fright into the air transport boys who had always had great confidence in slow old I.C.C. But that excessive profit report was a big mistake. After all, you can't lose money one year, make a nice profit the next (but not enough profit to keep from going into the red the third year) and feel altogether right about being called a profiteer. Yes, that report put the I.C.C. behind the proverbial eight ball and to the advantage of the President.

The smart news writers and columnists that persist in talking about the rumored amendment of the McCarran-Lea Bill as being a "guinea pig" bill for the President's governmental reorganization plan are somewhat berserk. So are those who talk of conflict brewing in a political cauldron because of changes in the aviation bill. Those boys just don't understand the coming New Deal in Aviation—and when we say *this*, we mean *this* year.

Dave Behncke's ALPA's, Clinton Hester's reorganization planners, Gorrill's ATA's, Branch's POD, Fagg's BAC, and others have picked at proposed wording and tried new paragraphs for weeks—getting lots of pet ideas off their respective chests. This is as it should be. As each paragraph is rewritten and restyled, we get closer and closer to the New Deal in Aviation. As we go to press, Messrs. McCarran and Lea, and the White House, will be making the final draft. And in addition, the bill will go through. The White House says it must.

### Cessation of Passenger Schedules

**A**LTHOUGH of only a four days' duration, the significance of the temporary discontinuance of passenger service on Northwest Airlines earlier this month should not be overlooked. When one of our four great transcontinental air routes grounds its equipment—completely ceases passenger-carrying operations—then there is reason to ask "Why?"

We believe the answer is to be found in Washington. In the 1920's, the Congress of the United States with a grand gesture encouraged the up-building of air transportation through a system of air mail subsidy at fair development contract rates. Then in the 1930's, with the development period not yet over, the Congress listened to niggardly political prophets who advocated the taking away of fair development contract rates—the result being that no airline in the U. S. today has enough reserve equipment to handle traffic during its own peak load periods and certainly not enough ships to rent or loan another line in an emergency. Furthermore, obsolete aviation laws make it impossible for airline management to solve such problems through bank credit.

Because of a fatal accident with one of its new Lockheed 14's, which resulted in the grounding of all 14's, Northwest had to use what equipment it had to maintain schedules. When maintenance became a problem, the line wisely suspended passenger schedules. It had insufficient reserve equipment for emergencies and reserve equipment is at a premium on other lines. Such a situation would not exist under a fostering governmental regulation which permitted the airlines to grow soundly and build for the future.

### No Government Aircraft Factories

**E**VERY once in awhile some Congressman rises to the floor in Washington to advocate that the government produce its own aircraft, engines and accessories. Under ordinary circumstances, such arguments come to naught, but under the stress of emergency building programs such arguments may be twisted sufficiently to carry weight among those who are not too well acquainted with the aviation industry.

The argument we may well be expected to hear this year is that private industry is working at capacity and is unable to take care of additional orders such as the government contemplates at the moment. Proponents of government construction would naturally point to 1937 production figures, of which the industry is justifiably proud, showing a record peacetime business—a business in 1937 fifty per cent above that of 1936.

But the truth of the matter is that the industry is not working at anywhere near full capacity. The Aeronautical Chamber of Commerce is to be congratulated for coming to the front with a survey, reported elsewhere in this issue, stating that the industry could double its dollar volume of production without increasing plant capacity in a single instance. Our own opinion is that the Chamber estimate is probably too conservative. And when one considers the comparative ease with which plant capacities can be enlarged in these days, it becomes wholly unnecessary for the government to engage in production of any kind. The American aircraft industry is well equipped. It has the finest designers and engineers in the world. It has waited patiently for government orders to enable it to expand, to experiment, to develop better aircraft and engines. These orders have been coming through with increased rapidity as the Army and Navy procurement programs were developed. But rather than being overtaxed with work, the industry is merely geared for faster and more efficient production. American private industry has spent millions of dollars in research and development; it deserves all of the business which the government has to give.

### The N. A. A. Looks Up

**T**HE National Aeronautic Association is undergoing a face lifting which gives it a new and determined lease on life. With definite sincerity of purpose, an executive committee composed principally of 12 well known personalities in aviation, spent a busy two days in Chicago during the International Air Show, discussing the organization from every viewpoint and outlining plans for 1938. For the first time in years the N.A.A. has a budget and a well-balanced administrative control.

It has a concrete program, which, if carried out, will certainly merit the support of everyone interested in the development of aviation. With new men like Ed Aldrin, Oliver Parks, Grove Webster, Al Lodwick, Al Nar, Floyd Evans, John Jouett, Jim Webb and others on the all-important executive committee, the N.A.A. appears to be ready to get down to serious business. Certainly an organization with a vital and practical program is sorely needed at the present time.

If the honesty, integrity and sincerity of the members of the executive committee is a criterion, the N.A.A. starts 1938 with vigor indeed promising. In common with all others who want to see the revitalized N.A.A. succeed, we extend to it our best wishes.



## Trade Paper Editors Gird for Battle with Sales Managers—But It Fizzles

Chicago, Feb. 2—The much-bally-hooped "Battle of Death" between aviation trade paper editors and commercial airplane sales managers today, scheduled for its American premier performance at 1:30 p. m. at the Palmer House, turned out to be "The Big Bust of 1938." Not only that, but the trade paper editors, in common with their lowly professional class, arrived one hour late for the conference of the century.

It seems that some of the commercial sales managers have been worked up because aviation trade papers allegedly had been playing up "dream" airplanes, drawing board models, and experimental jobs, together with performance characteristics. The manufacturers thought this was unfair and took the view that performance figures should be given only for A.T.C. airplanes unless the figures were clearly specified as "estimated." Furthermore, the manufacturers—some of them, anyway—wrote to trade papers editors setting forth these suggestions in rather terse terms.

This action stirred two members of the typewriter-pushing craft—S. Paul Johnston of *Aviation* and George "I-got-scooped-on-my-own-wedding" Hadaway, of *Southern Flight*—to suggest that the trade paper representatives gather in Chicago and have battle with the sales managers face to face. This idea was good on the surface but neither Johnston or Hadaway thought that the trade paper editors would far outnumber the manufacturers. Indeed, it had occurred to no one, apparently, that over half the industry was in the publishing business and it was an ill day for McGraw-Hill when Johnston thought he would donate a luncheon to the trade paper people. At least a full month's profits or losses went down the hatch but the luncheon was good considering the mob.

There was great anticipation on both sides for a real battle. The sales managers spent all morning at the Palmer House preparing their case against the trade papers and word passed along to several editors that "We're all primed for you at 1:30." Meanwhile the trade paper editors, overflowing Chicago's municipal stadium, were smoking cartons of cigarettes working up an offensive. After much sober but spirited deliberation, Swanee Taylor of *Popular Aviation* was chosen as the man least likely to be talked down by the sales managers and it can be said in all candor that Swanee was in good oratorical form. For the first time since 1903 the trade paper editors were unanimously in favor of something but it may have been the fact that it was still morning or because the half-starved editors were afraid they'd cross up a free luncheon.

Promptly an hour late, the editors piled out of sixteen chartered double-deck buses ready for a rough-and-tumble battle. Into the manufacturers' sacred sanctum they walked, ran and crawled, apparently frightening to submission the sales managers by sheer force of numbers. The floor was immediately taken by Swanee, who delivered what turned out to be a monologue, and who told the sales managers that the trade papers were blameless in the first place (nobody seemed to notice the red faces) and that the sales managers should do better in the second place. Then there were long moments of silence. First to peep up was Sam Breder,

of Ryan, who said, "Well, gentlemen, it looks as though we should have spent our time preparing a defense, not an offense." Anyhow, the big battle fizzled, everybody shook hands, the sales managers wiped the sweat off their brows, and trade paper editors tramped out leaving a chastened and bewildered group of mere salesmen who no doubt wonder who reads all the hundred and two trade papers published.

### McDonald to Columbus

Columbus, Ohio—Louis McDonald, who has been connected with the Chicago traffic office of T. W. A., has been sent here to replace S. O. (Si) Nollenberger, formerly district traffic agent here for the air line company. As has been announced previously, Nollenberger now is superintendent of Port Columbus municipal air base.

### Pacific Northwest Line to Open New Services

Seattle, Wash., Feb. 3—Pacific Northwest Airways, Inc., today announced that regular services to Bremerton, and to Port Angeles and Port Townsend will begin March 1. Dean H. Goodwin, operations manager and chief pilot, left yesterday for the Sikorsky factory at Bridgeport, Conn., to take delivery on the first of three new amphibians.

"Two new Beechcraft will be operated from Boeing Field on charter trips," D. K. Peters, general manager said. Planes will land at City Dock at Bremerton, and arrangements are being made for a Seattle waterfront berth.

PACIFIC NORTHWEST AIRWAYS, Inc., Seattle, recently filed incorporation papers with the Washington secretary of state, to engage in general air and transport business. Capitalized at \$15,000, the concern was incorporated by Donald K. Peters, Eleanor H. Peters and Dean H. Goodwin.

## Five Lines Approve 'Wives Free' Promotion Plan for Month's Trial

The "wives free" idea which Steve Stimpson inaugurated for a three-week trial period starting Jan. 12 between San Francisco and Los Angeles on United Air Lines, developed overnight into a national industry promotion scheme when American, TWA, Canadian Colonial, Chicago & Southern and United's eastern division placed the plan in operation.

Penn-Central came into the picture Feb. 4.

Generally speaking, when a man buys a ticket on an airline between certain points, he may take his wife with him free, although various conditions apply on the various airlines.

Just who thought up the idea is somewhat vague, although United was the first to advertise the plan on the west coast. American Airlines, however, said it had advertising copy in the course of preparation carrying out the same general scheme, but admitted that Steven Stimpson got the jump on actual operations. D. D. Walker, vice-president of Chicago and Southern Air Lines, said his line had been practicing the plan for some time but that it had not been advertised publicly. He said his company has issued positive transportation for wives where it meant good promotion business and future customers.

Evidently several lines had been toying with the idea of stimulating air travel by women, particularly by women who may have kept their husbands from flying in the past. For several days around the first of the month there was considerable confusion as to which lines were employing the plan and for what part or parts of their routes. All of the "wives free" plans are effective only up to March 1, except that of Penn-Central.

There were varying comments about how the plan was working, ranging from "very good" to "bad." United reported much new business between San Francisco and Los Angeles. After checking up with passengers who accepted the plan, the line found many persons who had never been in an airplane before or who had not been riding for several years. There was more enthusiasm for the plan in the west than in the east, although all lines thought it would result in many "first time" passengers.

TWA went farther than any of the others by making the plan effective for its entire route coast to coast. "We are convinced that the best way to get a

person, man or woman, sold on air travel is to get that person to make one flight," John B. Walker, vice-president in charge of traffic, said. "A single airline trip is a far better sales argument than all the booklets we could write."

American Airlines deviated from the others by publicizing two plans. One was open to the general public by which wives would be carried free between Chicago and New York on any of American's three routes. But credit card holders are allowed to take their wives with them free to certain designated points over American's system.

Chicago and Southern Air Lines had still another plan. It used a selected mailing list, sending invitations addressed to wives of men selected from various business firms along its route. Invitation cards are exchangeable for complimentary tickets. Flights must be made with the husband and cover the trip from airport to airport, according to D. D. Walker, vice-president and general manager.

Canadian Colonial Airways is permitting wives accompanied by their husbands to fly free between New York and Montreal.

Pennsylvania-Central is offering free wife transportation on its Washington-Buffalo division till Apr. 1.

United Air Lines extended its west coast offer to the east, making it effective between New York and Chicago; Philadelphia and Cleveland, and Philadelphia and Chicago. Harold Cray, vice-president in charge of traffic, went other lines one better by announcing: "The wife may bring without charge children under two years of age, and with advance notice, baby food will be put on the plane and served by the stewardess."

On Feb. 10 United included the Chicago-San Francisco-Los Angeles division in its promotion plan, Cray announcing proportion of women riders between Chicago and New York had risen from 25 to 35%.

Some airline officials were worried in the beginning for fear the plan might be abused. Although it has undoubtedly been true that some women posed as wives, and thusly rode free, there have apparently been few such instances. One reason is that the name and address is asked of each person. Airlines checked with attorneys to make sure they could not be held party to Mann Act violations and found they would not be held responsible.

## CORD 1937 LOSS PUT AT \$340,557

Stockholders to Vote on Change of Name at Annual Meeting; to Reduce Capitalization

Chicago, Jan. 31—Cord Corporation and subsidiaries lost \$340,557 in the fiscal year ending Nov. 30, 1937, according to an audited report released today after interest, depreciation, normal federal income tax and tax on undistributed profits, dividends on preferred stocks of subsidiaries and other deductions were made.

Stockholders at the annual meeting Feb. 11 will be asked to approve a change in name of the company and to vote on a reduction in the authorized capital stock from \$50,000,000 consisting of 10,000,000 shares of \$5 par value, to \$3,000,000, consisting of 3,000,000 shares of \$1 par value.

Approval for cancellation and retirement of 13,300 shares held in the treasury will also be asked. A letter to stockholders stated that the reduction in authorized capital will make possible savings in taxes and will not in any way change the shareholders' proportionate interest in the company.

E. L. Cord, who founded the corporation which has interests in Auburn Automobile, Aviation Corporation, Checker Cab Manufacturing, New York Shipbuilding, Columbia Axle and Lycoming Manufacturing, retired from the company in August.

If the reduction in the authorized capital is approved by shareholders, the outstanding 2,246,700 shares of \$5 par value stock will be changed into a like number of shares of \$1 par value and the \$8,986,800, representing the difference between the old par value capitalization and the new, will be transferred from the capital account to the paid-in surplus account of the corporation, it was announced.

L. B. Manning, president of the corporation, said Cord undoubtedly will suffer a substantial loss on its investment in Auburn common stock and debentures and in Lycoming common and preferred stock and indebtedness. No effort was made in the 1937 financial statement to write down the company's investments in Auburn and Lycoming securities.

### Douglas Official Elected President of Local C. of C.

Santa Monica, Jan. 26—Thomas C. McMahon, Secretary of the Douglas Aircraft Company here, has been elected president of the



Santa Monica-Ocean Park Chamber of Commerce. For the previous two years he has been a member of the board of directors and has been active in civic affairs since he came from McCook Field, Dayton, nine years ago to join the Douglas organization.

By a coincidence announcement was made at the same time of the election of James McDermott, an employee in the inspection department of the Douglas plant, as secretary of the Hermosa Beach Junior Chamber of Commerce. Harry H. Wetzel, vice-president and general manager of Douglas, is chairman of the Aviation Committee of the Los Angeles Chamber of Commerce.

CONTINENTAL MACHINE SPECIALTIES, Inc., Minneapolis, Minn., has issued a 64-page descriptive catalog entitled "25 Ways to Cut Machining Costs."

## Pro, Con and Otherwise

### Against Racing

To the Editor:

I have just seen your February 1st issue in which your blast at Air Racing has raised some disturbance. I cannot tell you how highly your efforts to eliminate all air racing in unlicensed ships should be praised. I will never forget the prominence the 1936 Air Show in Los Angeles received when several of the parachute jumpers broke limbs slipping their chutes to get into the prize money, and one I believe died. The whole trouble is that this whole thing is nonsense and the Aviation Industry is too stupid to see that as a *selling job to stay out of the air* they could not be doing a better one. Far from seeing it they contribute their time and money to perpetuating reasons to keep good customers both for private flying and the airlines out of the air.

You must persist in ending this race nonsense for all time.

J. Lippman Cohn  
Allied Aviation Corp.  
Glendale, Calif.

### Safety—Plane and Car

Jan. 31, 1938

To the Editor:

In an article some time ago, *Fortune* remarked that commercial aviation, in its best years, had about as good a safety record as railroads had in their worst years. While thinking people would of course regard such a record as a very good one, it nevertheless seems a rather left-handed recommendation.

Last summer I began a transcontinental trip by automobile, which came to a very abrupt end when we hit a bull which had chosen to jump onto the highway right in front of us in Utah. The car was incapacitated, to put it briefly, and as I continued the trip by air from Salt Lake City to New York, it occurred to me for the twentieth time that it would be very interesting to attempt a comparison of the safety records of commercial airlines and long distance automobile transport. This would naturally be very difficult, but it might be possible to get a good start by consulting such an agency as California Automobile Club, which insures a great many of its members against collision, and keeps excellent records.

It seems to me that there is more than a mere chance that the comparison would be very favorable to the airlines. If so, it would be such an excellent recommendation for air travel that any required expense would be gladly met by many agencies.

William G. McKenzie  
New York City

### Michigan Gas Taxes

Feb. 3, 1938

To the Editor:

It was noted in your January 15th issue of *AMERICAN AVIATION* under the article pertaining to state aviation gasoline taxes that certain states had expended small amounts of aviation gasoline tax revenue for aviation purposes. The amount that Michigan expended during the year 1937 was not included.

There was expended in our state for specific aviation purposes during the year 1937 the sum of \$30,365.00. The expenditure of this relatively small sum resulted in the promotion of the expenditure by local communities in excess of \$100,000.00. This latter amount consisting of direct cash contributions and each case matching better than two to one the amount put in from the

State Aeronautics Fund. This amount also represents the equivalent of cash for equipment rentals where equipment was secured by the State Aeronautics Department from counties and cities for airport construction work.

During the year approximately \$1,250,000.00 was expended of Federal relief funds for airport construction work. All this work being engineered and the general supervision furnished by the State Aeronautics Department. Specifically, some of the other things done during the past year, the cost of which is not included in the above figure, were the following:

1. Promoted and supervised the air marking of fifty-five cities.
2. Conducted the annual State Model Airplane Contest.
3. Promoted three week end tours and the state Air Tour.
4. Issued a state airway map, also booklet of field drawings showing the details of all airports and landing fields in the state.
5. Issued periodic bulletins on airport conditions and general state aviation interests.

6. Aided in the enforcement of State and Federal Air Regulations.
7. Formulated plans for airport construction during the coming year.

Michigan State Board of Aeronautics  
Floyd E. Evans, Director  
Lansing, Michigan

### Consolidated Officials Abroad

San Diego, Feb. 1—C. A. Van Dusen, vice president of Consolidated Aircraft Corp., and Gordon Mounce, sales representative, sailed from New York Jan. 15 for Europe to study aircraft problems and manufacturing in England, France, Italy and Germany.

CROIL HUNTER, president and general manager of Northwest Airlines, Inc., has been appointed a member of the advisory committee on aviation at the 1939 World's Fair in New York.

BELLINGHAM, Wash., Jan. 25—The Cub Aviation Club was organized here last night, naming following officers: George Backman, president; D. McKinnon, vice president; L. Lampman, recording secretary; Earl Coss, treasurer; Ray Becker, John Brockway and James Elenbaas, trustees. Brockway, with 3,000 flying hours, will be temporary instructor. When the membership rises from present 12 to 20, a Silver Cub ship will be bought from A. W. Whitaker, Portland, northwest distributor.

## Radio Direction Finding Charts Published By Geodetic Survey

The Coast and Geodetic Survey, Department of Commerce, has published the first of a series of six new aeronautical charts especially designed for radio direction finding which are expected to be a boon to pilots flying radio-equipped aircraft, according to announcement by J. H. Hawley, acting director of the survey.

"The radio direction finding method of navigation has been steadily growing in importance," Mr. Hawley said, "and the new charts will greatly simplify the work of plotting the radio bearings. All radio stations are shown on the new chart. Around each radio station there is printed a compass rose oriented to the magnetic meridian and graduated for plotting reciprocal bearings."

"When the magnetic bearing (direction) of a radio station is obtained in flight, it is only necessary to draw a line from the station through the graduation corresponding to the observed bearing. The plane is located somewhere on that line; the intersection of the line with a second 'line of position' similarly obtained, fixes the position of

the plane. A line of position from a third station provides a valuable check."

Like the other aeronautical charts of the Coast and Geodetic Survey, the new series is based on the Lambert conformal map projection. This projection is ideal for the purpose, since the meridians on the chart conform so closely to meridians on the earth that no corrections for map distortion are necessary. The scale of the new series is 1:2,000,000, or about 32 miles to the inch. The size is 22 by 34 inches and the price is seventy-five cents. The series of six charts will cover the entire United States. The first chart just issued is located in latitude 31-41 north and longitude 104-123 west, covering an area of about 650,000 square miles.

This chart embraces portions of California, Nevada, Utah, Colorado, New Mexico, Arizona, and Mexico. Lithographed in four colors, it shows aeronautical features in black, names of topographic features in dark gray, contours in brown, drainage in blue, flight lines in purple, cities in yellow, and five gradient tints.

### BRADLEY HEADS BUILDERS

Frank Russell Named to Presidency of Manufacturers Assn.

New York, Jan. 25—Manufacturers Aircraft Association, Inc., today re-elected Samuel Stewart Bradley chairman of the board; Frank H. Russell, president, and John A. Sanborn, general manager.

Other officers elected were Eugene E. Wilson, United Aircraft Corporation; Reuben H. Fleet, Consolidated Aircraft Corporation; William E. Valk, Jr., Curtiss-Wright Corporation, and John M. Rogers, Douglas Aircraft Company, Inc., all vice-presidents; Joseph T. Hartson, Glenn L. Martin Company, secretary, and James P. Murray, Boeing Aircraft Company, treasurer.

Russell stated in his president's report that 90% of the American planes produced in 1937 were built under the cross-licensing patent agreement administered by the association. A total of 119 new aircraft patents were licensed by the association to members during the year, Russell stated.

### Aeronautical Charts

The U. S. Coast and Geodetic Survey, Department of Commerce, has issued the following new sectional aeronautical charts. These cancel previous editions. Pilots are warned against using obsolete charts. All sectional charts are scaled at 1:500,000 and are priced at 40 cents each with a discount of 33 1/3 per cent on orders, including assortments, grossing \$10 or more.

BURLINGTON. December 1937. 19 by 39 inches.

Addition of new radio range at Montreal, Canada, and other minor changes in aeronautical features.

ELKO. January 1938. 20 by 41 inches.

An aeronautical revision shows relocations of beacons and the radio range at Buffalo Valley, Nev. Includes a general revision of topographic features.

HUNTINGDON. December 1937. 20 by 43 inches.

A revision of aeronautical features, including the realignment of radio ranges at Gordonsville, Va., and Buckstown, Pa.

KLAMATH FALLS. January 1938. 20 by 41 inches.

Revision includes new radio range at Medford, Ore.

KOOTENAI. December 1937. 20 by 37 inches.

This is a revision of aeronautical data, with the addition of the radio ranges from Spokane, Wash., Coeur d'Alene, Idaho, and Mullan Pass, Mont.

LOS ANGELES. January 1938. 20 by 45 inches.

Changes in airports and beacons and the addition of radio range at Blythe, Calif.

OKLAHOMA CITY. November 1937. 20 by 45 inches.

Topographic features revised in area north of Amarillo, Tex., and six rotating beacons between Dill and Oklahoma City added, together with minor changes in radio facilities, airports, and other beacons.

PORTLAND. January 1938. 20 by 39 inches.

Topographic features revised to conform with recent survey. Changes in several airports and beacons.

### 48 Pacific Round Trips Made by Pan Am in 1937

Pan American Airways in 1937 made 48 weekly round trip flights across the Pacific, neared the 10,000,000 passenger-mile mark, extended its Guam route nearly 1,000 miles to Hong Kong, to connect the Philippines with China, and surveyed a second trans-Pacific route to New Zealand, reports a year-end review just released.

Pacific clippers flew 836,000 miles during 1937 without accident. On Nov. 19 the Hawaii Clipper set a new record for the trip from Hawaii to Alameda—14 hours 48 minutes.

### Gene Vidal's "Flying Wing"



This new pusher-type, tailless airplane has been developed by the Research Aircraft Corp., with which Eugene L. Vidal, former director of the Bureau of Air Commerce, is connected. It cracked up at the Cleveland Municipal Airport while undergoing flight tests Jan. 27. Jimmie Taylor, veteran New York test pilot, was uninjured. Invented by engineers of Tuscar Metals, Inc., of New Philadelphia, O., the low-wing monoplane weighs 1,800 pounds and has a wing spread of 35 feet. The plane is controlled by flippers on the trailing edges of the wings and is steered with four rudders of small area. It is constructed of tube and stainless steel and is powered by a 90 h. p. inverted motor. The wing is in one piece. An improved model will be constructed immediately. Wide World Photo



## Penn-Central Starts Daily Use of Air Track Landing System

Mobile Apparatus Outgrowth of Nine Years' Research by Washington Institute and Bureau of Standards

The first performance of a program of instrument landing on a scheduled airline was completed Jan. 26 when a Pennsylvania Central plane, piloted by J. H. Neale, PCA operations manager, and carrying government officials and prominent individuals, made a blind landing at Pittsburgh using the Air Track system.

Installed Dec. 4 at Pittsburgh, said to be the first radio instrument landing equipment for daily use in airline operation, Air Track represents nine years of continuous work, and is the improved and commercial adaptation by Washington Institute of Technology of a mechanism developed by the National Bureau of Standards.

Its makers claim it is the first radio safe landing system giving accurate indications throughout the approach and landing in any wind direction, automatically monitored and entirely contained on the airport. It meets all specifications for instrument landing systems drawn up recently by airline representatives, the Bureau of Air Commerce, and Federal Communications Commission, based on fundamental principles of the original "bureau" system.

Briefly, the system embodies three transmitters and antennas—two in an auto trailer at the far end of the runway used, one at the approach end of the runway—and instruments and receiving equipment in the plane.

At Pittsburgh, the trailer transmitter was placed at the west end of the east-west runway, although the wind at the time was across it. About 10 minutes before the plane's arrival, an expected wind shift having failed to materialize,

the trailer was towed to the southwest end of the ne-sw runway, plugged in, and transmitters switched on.

Neale made the standard instrument landing approach, lined up on the localizer at about 15 miles, and came in toward the glide path encountered, about four miles from the field. The plane was set down in a gusty wind which at times reached 40 mph.

Stressing the portability of transmitters, Charles E. Planck, of Air Track Manufacturing Corp., said "Had it been a fixed system at Pittsburgh Neale could not have used it. And in good weather, when pilots should utilize it for every landing for training purposes, there would be many times when it would not be serviceable."

Several PCA ships have been equipped for Air-Track, and training of pilots will continue indefinitely, Planck said.

The horizontal guidance transmitter (localizer) is in effect a four course radio range beacon, each course with a range of 20 miles. One of the courses is projected in a straight line down the exact center of the runway. The vertical needle on the cross-pointer instrument gives the pilot an indication when he is within the 40-mile overall range and indicates the exact center of the runway.

The vertical guidance transmitter (glide path), sends out a "curved beam" sloping upward from the trailer into space—actually a line of constant field intensity. This actuates the horizontal needle on the plane cross-pointer. The shape of this path can be adjusted to meet the geographical requirements of each field.

The third transmitter (marker

## DOUBLE CHECK

TWA Clerk Checks Check;

Wife Checks Hobby

The airline plan of carrying wives free had no more than gotten underway when a well-plastered gentleman barged up to a TWA ticket office in the mid-west and asked for a ticket to Chicago, adding that he had his wife along and wanted free passage for her. The woman stayed in the background during the negotiations.

The ticket agent obligingly said O.K., but when the man proffered a check in lieu of cash for his ticket, the agent decided to do a little verifying before the plane left. The man, in the meantime, had given his wife's address as additional testimony to the check's validity. The ticket agent went into a back room, called the number at the address, and inquired if the check was good.

"No the check's no good," said the female voice on the other end of the line, "and furthermore I'm his wife and you'd better tell him to get home pretty quick."

beacon), sends up a vertical beam. As the plane passes through this curtain a signal in the pilot's earphone and a light on the panel indicate the plane is past the field boundary and over the runway. Two-way communication is not interrupted by the system.

Since the pilot always lands toward the trailer, there is no fixed apparatus for housing the transmitters, or fixed antenna supports to form flying hazards at the approach end of the runway, the makers point out. The marker beacon antenna is a foot from the ground.

Transmitters are automatically monitored, so that if any of the three varies, it is automatically cut off and a red warning light flashes on the panel in the control tower of the airport.

## Plan Shenandoah Memorial

The Treasury Department announced Feb. 1 that bids will be advertised this month for construction of a memorial to the crew of the Shenandoah disaster in 1925—a marble shaft, to be erected at Ava, Ohio, near the crash site.

## Grounds 40 Ships

Army Air Corps Feb. 1 grounded 40 Consolidated low-wing monoplanes attached to the 8th Pursuit Group at Langley Field, Va., for investigation following crash of two planes of that type there recently. The Army reminded reporters it is customary to stop, temporarily at least, flights of all ships of a type when more than one crash occurs over a short period.

## 8 LINES GET MORE MAIL SCHEDULES

All But Two Effective Feb. 15; Means About \$400,000 Additional Mail Revenue

Effective Feb. 15, six airlines will put into operation additional mail schedules granted recently by the Post Office Department. Two other lines, although awarded additional schedules, have asked to have the effective date deferred until a later time.

United Air Lines, which has a route from the south and one from the east into Portland, Ore., has been granted an additional mail schedule to handle the large volume of mail originating from these two routes.

Continental Airlines will put into operation another schedule between Denver and Albuquerque; Hanford Airlines one from Omaha via Sioux City to the Twin Cities; Boston-Maine Airways one from Boston to Montreal, and Western Air Express one from San Diego to Los Angeles.

Wyoming Air Service's Billings-Great Falls route, which had been daily except Sundays and holidays, has been changed to include the latter days.

Braniff Airways has been granted an additional schedule between Dallas and Wichita, and American Airlines one between St. Louis and Oklahoma City. These companies wish to wait until passenger traffic warrants operating such additional schedules through to Kansas City and Dallas respectively, and the Post Office has agreed to defer the date.

Because of the sliding scale by which the contractors are paid, the exact cost of the additional routes is not known. It is expected to be in the neighborhood of \$400,000 a year, however.

A BOSTON WEATHER BALLOON recently set an altitude record, ascending 82,600 feet.

## UNITED FLIES HIGH!



## New barographs insure maintenance of minimum altitudes

\*United's policy is always to fly at least 1/2 mile above any elevation on its entire coast-to-coast system. In addition, United offers barograph-equipped planes. This new device insures that United's prescribed minimum altitudes are strictly maintained.

United offers two nightly sleeper flights coast-to-coast, as well as a scenic daylight flight East.

RESERVATIONS: United Offices, Hotels Travel Bureaus, Telegraph Offices.

**United Air Lines**  
THE "MAIN LINE" AIRWAY



Above: Dr. John J. McLean, left, Director of Aviation at Allegheny County Airport, Pittsburgh, and Robert H. Hancock, superintendent of maintenance of the airport, talking to Air Track trailer. Note control panel for system in tower between them.

At right: J. H. Neale, operations manager for Penn-Central, left, and Gomer L. Davies, chief of the aeronautical division of Washington Institute of Technology, examining antenna for Air Track system on PCA Boeing 247-D.



# '37 Exports Hit \$39,405,473 Mark

Argentina, China Lead Aeronautical Buyers as Shipments Gain 70.9% Over 1936 to Establish New All-Time Record; November Best Month

Exports of aeronautical products from the United States during 1937 reached a new all-time high of \$39,405,473, registering a gain of 70.9% over the 1936 figure of \$23,143,203. Although it seemed a certainty at the end of the first six months that a record would be set, many authorities had not believed the final figure would be over \$34,000,000.

During the last five months of 1937, exports were generally higher, maintaining a monthly average of \$4,038,060, as compared with an average of \$2,730,061 for the first seven months.

A breakdown of the 1937 total shows that the United States shipped abroad 626 planes valued at \$21,027,361, parts and accessories at \$12,157,337, 1,047 engines at \$5,944,004 and parachutes and parts at \$267,771.

Argentina, which was in fifth place at the half-year point, finished in first place, with China and Russia second and third respectively. Argentina's total for the year was \$4,403,507.

Countries which exported aeronautical products in excess of \$1,000,000 during 1937 are as follows:

Argentina	\$4,403,507
China	3,961,819
Russia	3,212,729
Netherlands	2,954,394
Japan	2,483,946
Turkey	2,450,391
Mexico	1,921,406
Canada	1,854,725
United Kingdom	1,729,271
Brazil	1,675,092
Australia	1,392,860
Siam	1,154,648
Germany	1,028,947

November was the record 1937 month, with a total of \$5,218,478, while January was the lowest, the total being a little over \$2,000,000.

## British Exports Set New Record in 1937

British aeronautical exports during 1937 established a new record of \$18,382,465, registering a gain of \$3,760,000 over the previous record of \$14,622,465 set in 1936. According to reports, British commercial aircraft manufacturers who have paid special attention to export business have been busier than at any previous time in their history.

Expansion of the Royal Air Force takes most of Great Britain's aeronautical products and is given as the reason why exports are not higher. Exports jumped during the closing months of 1937 when a considerable number of military monoplanes were released for sale abroad.

Exports of aeronautical products from the United States during 1937 were slightly more than \$21,000,000 ahead of Great Britain's record.

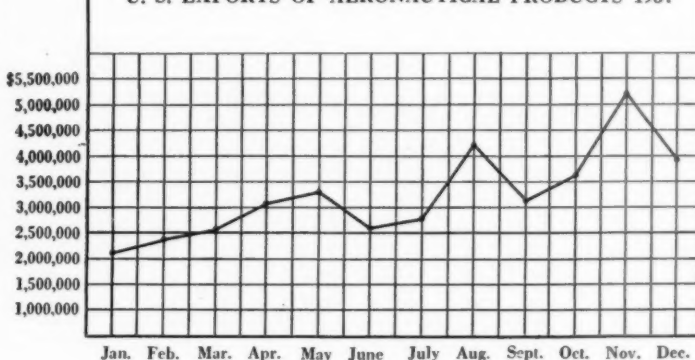
## IRVING SALES RISE

Backlog Set at Million Dollars on Dec. 31, President Says

Buffalo, Feb. 7.—Irving Air Chute, Inc., reports a 1937 net income of \$278,643 after charges, federal income taxes and surtax on undistributed profits are deducted, equal to \$1.40 a share on 198,400 shares of capital stock. The 1936 net figure was \$208,556, or \$1.04 a share.

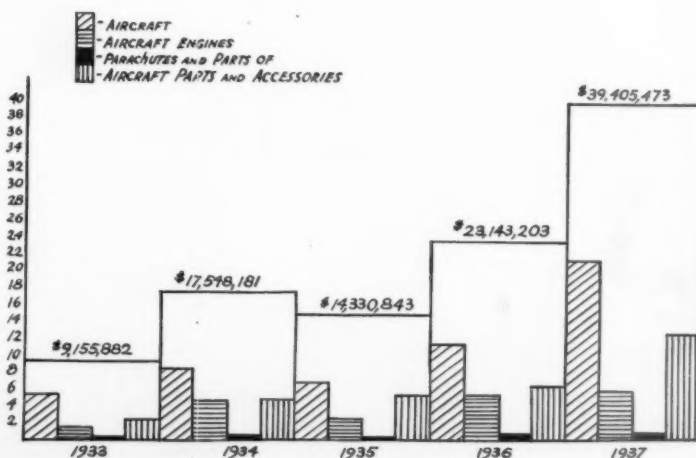
George Waite in his annual president's report said during 1937 sales increased to \$1,790,075 as against \$1,345,418 for 1936. During 1937 \$228,175 in dividends were paid. At the end of the year unfilled orders totalled more than \$1,000,000.

U. S. EXPORTS OF AERONAUTICAL PRODUCTS 1937



Where Our 1937 Exports Went

U. S. AIRCRAFT PRODUCTION



## BENDIX OPENS IN PARIS

Names Foreign Representative to Cover Britain, Continent, Near East

H. F. McEnness has been appointed special European representative for the Bendix Aviation Export Corp., which has opened a new Paris office at 51 Avenue George V., Howard S. Welsh, vice-president and general manager, announces.

Mr. McEnness, who will travel out of his Paris headquarters to cover the Continent, British Isles and Near East, came into the aviation industry in 1929 when the Consolidated Instrument Co., of which he was sales manager, was taken over by Bendix Aviation Corp. He was transferred to the Pioneer Instrument Co., Bendix subsidiary, and from 1935 until recently he handled all foreign accounts for Pioneer.

## TO TEST FALCON SOON

Experimental Single Seater Into Production Within 6 Months

Denver, Jan. 27.—Ray Melberg, manager of Falcon Aircraft Corporation here, reports his new 145 hp. Warner-powered experimental job will be ready for test flying within two or three months and that production on this model will begin shortly afterward.

The 145-hp. ship is slightly larger than an original built for Winthrop Gardiner, Jr., of Long Island. In addition to the single-seater the company intends to build a small two-place cabin biplane with higher cruising speed than the average small ship.

## AMEXCO OPENS AIR DEPT.

Erskine Girard Directing New Travel Service

American Express Co. Jan. 18 opened an air travel department in New York headed by Erskine Girard, for the last three years district superintendent of Pan American Airways at New York.

"Besides taking care of present and immediate requirements," said F. P. Small, president of American Express, "we are looking toward the beginning of trans-Atlantic air services, which may come sooner than is generally expected."

"Air transportation is developing into an important arm of luxury travel. This season, for example, there is a large amount of traffic between here and Florida and California. Air services to Bermuda are popular. Plane travel from New York to South America went up more than 100 per cent. last year. And not only business men, but luxury travelers, are patronizing the clippers to Hawaii and the Orient."

## New Firm Leases

Long Beach, Cal.—National Aircraft Co., has leased from the city an 11-acre factory and office building site on land adjacent to Municipal Airport. The newly organized firm expects to erect a factory building 200x225 and an administration building 50x150.

GOTHAM'S 1939 FAIR will go Buck Rogers 21st Century! It will display "an intricate working model of the interplanetary rocket port of the future" in the Transportation Building. Grover Whalen emphasized the exhibit was merely a climax representing the future in a presentation of the story of transportation.

MARK F. HEANEY who conducted aircraft experimental work at North Beach Airport, New York City, under the name of Heaney Laboratory, has opened headquarters in Hangar C, Roosevelt Field, L. I.



# Manufacturing Hits Peak in '37

**Sales 50% Over 1936, New Peacetime Record, with Light Planes Showing Biggest Increase; Further Rise Expected in First Half of 1938**

THE aircraft manufacturing industry in the United States had a record peacetime year during 1937, when sales of airplanes, aircraft engines and spare parts totalled \$115,076,950, an increase of 50% over the 1936 sales of \$76,804,818, according to figures reported by the Aeronautical Chamber of Commerce of America.

Commercial airplane deliveries last year amounted to 2,238 valued at \$19,230,650, less engines, as compared to 1,528 valued at \$12,535,526 in 1936. The increase in the number of planes was most pronounced in the light two-place machines, a total of 1,542 being delivered last year as against 898 in 1936. The number of planes in the transport class increased 100%, 188 multi-engined planes being delivered in 1937 as compared to 94 in the previous year.

Military airplane deliveries in 1937 totalled 949 valued at \$37,095,528 less engines, as compared with 1,024 valued at \$26,898,916 in 1936. The increase in dollar volume with decrease in units delivered is explained by the fact that larger and more costly multi-engined planes were delivered last year.

Commercial aircraft engines delivered in 1937 amounted to 4,020 valued at \$15,243,571 as against 2,527 valued at \$7,946,015 in 1936. Military engines delivered last year totalled 1,994, costing \$14,894,113, as compared to 1,794 valued at \$14,619,453 in 1936.

Airplane spare parts showed an increase of better than 100% over 1936, reaching \$19,617,151 in 1937 as against \$8,228,189. Engine spare parts totalled \$8,995,937 as compared to \$6,576,719 the previous year.

Deliveries rose steadily during 1937, reaching a new monthly record of \$13,237,019 in December. Fourth quarter deliveries also set a new record of \$34,461,891, topping the previous record of \$31,164,945 established during the third quarter.

Indications for the first half of 1938 are that deliveries will rise 50% above those recorded during the first half of 1937. This outlook is occasioned by the record volume of unfilled orders on which work is progressing. Plant capacity as a whole is also larger than at a corresponding time last year, because of expansion projects which have been completed.

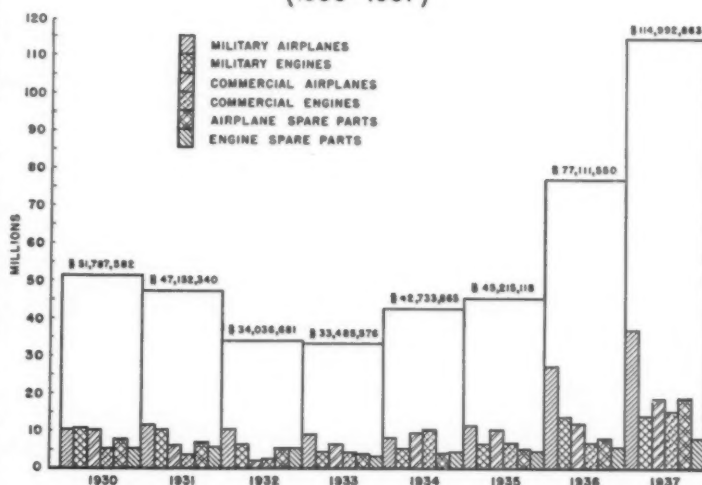
The business recession suffered by other industries is likely to help the aircraft manufacturers in that they will be able to avoid delays in securing materials. This will step up production and deliveries.

## Ebbitts Heads CALTO

Chicago, Feb. 5—Bob Ebbitts, district traffic manager for Eastern Air Lines, has been elected president of the Chicago Air Lines Ticket Office, Inc. Other officers are: Myron Ubl, d.t.m. of Northwest Airlines, first vice-president; Ralph Heininger, d.t.m. for Chicago and Southern Air Lines, second vice-president; Robert Hedberg, d.t.m. for Braniff Airways, secretary, and Eddie Eidson, treasurer. Eidson manages the cooperative ticket concern. Directors include the above and R. E. Pfennig, superintendent of passenger service, United Air Lines; Lewis King, d.t.m. for American Airlines, and John Graves, regional traffic manager for TWA.

KENNEWICK, Wash., Jan. 25—An aviation training school will be established here this spring, Ed Crooks told reporters today.

U. S. AIRCRAFT PRODUCTION  
(1930-1937)



## Manufacturing and Deliveries

	1936		1937	
	Units	Value	Units	Value
Comm. Airpl. ....	1559	\$12,379,835	2281	\$19,188,945
Comm. Eng. ....	2433	7,520,900	4095	15,290,820
Total Comm. ....		19,900,735		34,479,765
Mil. Airpl. ....	1141	27,736,199	949	37,071,160
Mil. Eng. ....	1804	14,569,708	1989	14,828,850
Total Mil. ....		42,405,907		51,900,010
Gr. Total ....		\$62,306,642		\$86,379,775

	1936		1937	
	Units	Value	Units	Value
Comm. Airpl. ....	1528	\$12,535,526	2238	\$19,230,650
Comm. Eng. ....	2527	7,946,015	4020	15,243,571
Total Comm. ....		20,481,541		34,474,221
Mil. Airpl. ....	1024	26,898,916	949	37,095,528
Mil. Eng. ....	1794	14,619,453	1994	14,894,113
Total Mil. ....		41,518,369		51,989,641
Gr. Total ....		\$61,999,910		\$86,463,862

## May Close Beazley Branches

Air Associates, Inc., recent purchasers of Nicholas-Beazley Company, Marshall, Mo., probably will close Nicholas-Beazley branch offices at Floyd Bennett Field and Los Angeles, as well as the main plant at Marshall. The Dallas office will probably be kept and added to Air Associates' three offices at Roosevelt Field, L. I.; Chicago, and Los Angeles. Harry Reisner, formerly production manager at Fairchild Aircraft Corp., Hagerstown, Md., has been placed in charge of manufacturing for Air Associates at Roosevelt Field.

## Doolittle's Squeak

Los Angeles, Jan. 31—Maj. James Doolittle, Jr., escaped injury at Union Air Terminal today when his ship ground looped. He was arriving from

St. Louis to testify to the character of Paul Wright, on trial here for murder of his wife and a friend.

## New Plane for North Service

Edmonton, Alberta, Jan. 27—A new twin-engined Fairchild Sekani, carrying from 12 to 15 passengers, express and mail at a 160 m.p.h. cruising speed, has been purchased by Mackenzie Air Service and will arrive here within a few days. W. Leigh Brintnell, company president, said today.

The plane, one of the largest in western Canada, will fly from here to northern mining areas.

## 'Do Not Enter' Signs Too?

Increasing number of planes in use led the air ministry to announce that after Feb. 1 skies over the British Isles would be charted for "one way flying" during heavy weather. Space between 3300 and 18,000 feet will be divided into four horizontal zones, and these, in turn, will be subdivided into layers of 300 feet, each of which will be allotted to courses lying within a 30-degree sector of the compass.

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## Bendix Radio Denies

### Research Abandoned

L. A. Hyland, vice-president and general manager of Bendix Radio Corporation, issued the following statement Feb. 4 through Harry Bruno & Associates publicity counsellors:

"L. A. Hyland, vice-president and general manager of Bendix Radio Corporation, corrects an item published Feb. 1 which declared that Bendix Radio had reduced personnel and curtailed development work. Mr. Hyland states that personnel changes were only the normal turnover and amounted to less than one percent, and on Feb. 1 employment was up ten per cent over the previous month.

"No projects were discontinued," he said, "but rather several new and important developments were started. A drift indicator which was reported abandoned was transferred with its development engineer to the Eclipse Aviation Corporation, subsidiary of Bendix Aviation Corporation, because of the availability of an instrument department for research and manufacture; a sound recording device to make permanent records of all two-way radio conversation is still in work under its original engineer at the Bendix Baltimore plant."

## L. A. County Unfilled Plane

### Orders Total \$61,125,000

Los Angeles, Feb. 9—The four leading airplane manufacturers in Los Angeles county have a backlog of unfilled orders totaling \$61,125,000 to work on during 1938. In addition, there are numerous small companies within the county whose backlogs are not known. Douglas Aircraft and its subsidiary the Northrop Corporation, Lockheed Aircraft Corporation, North American Aviation Corporation and Vultee Aircraft Division of Aviation Manufacturing Corporation are the four companies whose backlogs are reported.

Production figures in the major plants here during 1937 reached the record total of \$27,500,000, an increase of \$11,000,000 over the total of \$16,500,000 registered during 1936. During 1937, the industry employed approximately 14,000 workers with payrolls of approximately \$20,000,000 whereas in the preceding year 10,000 workers were employed.

The backlog of the Douglas Company is reported to be \$35,000,000 while Lockheed's is \$6,125,000.

## Radio Station Bids Opened

Bids for construction of radio facility buildings and loop antenna systems at New Hackensack, N. Y., and Putnam, Conn., and for construction of buildings and radio towers at Spartanburg, S. C., were opened recently by the division of purchases and sales of the Department of Commerce. These stations are part of the Bureau of Air Commerce's expansion program.

Melvin F. Burgess, Inc., Baltimore, Md., was low bidder for the Putnam and New Hackensack jobs, quoting \$4,738 and \$4,056.71 respectively. Bids were divided into two parts, one for antenna and one for buildings. Burgess' bid was submitted on both parts. MacIntosh Construction Co., Newark, Delaware, bid \$17,881.05 on the Spartanburg station, but stated that if awarded both parts of the contract, it would do the job for 33 1/3% less, or a total of \$5,960.35. No awards have been made.

# Airlines Up Only 5% for Year

Revenue Passenger Miles Show Small Increase as Accidents and Weather Play Havoc with Business  
American Airlines Only Major Line to Show Increase

**AIRLINES** reporting to the Air Transport Association of America flew 457,531,319 revenue passenger miles during 1937, a 5% increase over the 388,095,200 flown during 1936.

Despite the fact that most lines decreased fares in the fourth quarter of 1937, traffic was 14.4% lower than during the corresponding 1936 period. The loss was principally due to poor weather, the October crash, and the general business recession. The first, second and third quarters were all better than during 1936.

Although the total revenue passenger miles were higher for 1937, American Airlines was the only transcontinental line to show an increase over 1936. American flew 123,074,318 revenue passenger miles during 1937, as compared with 100,637,461 in 1936, and has, with the exception of one month, accounted for the largest single share of the total passenger business since October, 1936.

United Air Lines' total revenue passenger miles for 1937 were 97,578,794 against 106,048,002 in 1936. TWA's total was approximately 68,000,000 as compared with 76,296,390 in 1936.

Air Transport Association figures also show that in 1937 there were five accidents resulting in 40 fatalities on the domestic airlines as compared with six accidents and 44 fatalities in 1936. Passenger-miles flown per passenger fatality during 1937 were 11,766,800 against 9,903,188 during the previous year.

The following figures are estimates, final statistics not being available as yet: 1937 plane-miles flown, 65,000,000, an increase of 2% over 1936; pounds of express, 8,698,500, a 25% increase; mail ton-miles, 6,602,700, an increase of 15%; passengers carried, 1,102,000, an 8% increase. The final figure on passenger-miles is 471,000,000, 8% ahead of the 435,740,253 flown in 1936.

## Canada Line Express Up 230% in 1937

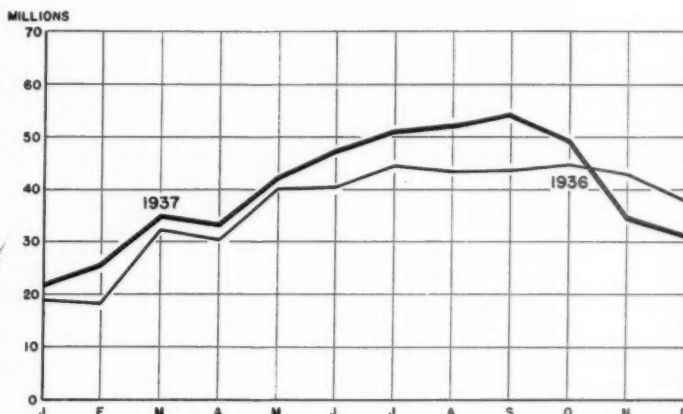
Edmonton, Alberta, Jan. 31—Canadian Airways planes in 1937 broke all express records. Business jumped 230 per cent, and officials expect 1938 to be even better. J. W. Tackaberry, Winnipeg, controller of the company, said today.

In 1937 the company invested \$300,000 in new equipment. Mileage rose 35 per cent, passenger traffic increased 65 per cent. Ships carried nearly 16,000 passengers, 400 tons of mail, and 7,000,000 pounds of express. Installation of two-way voice radio equipment in all planes operating out of here will start soon.

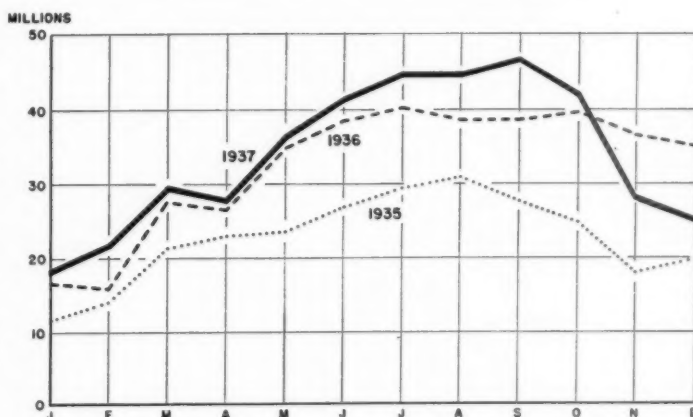
## 1937 Air Express Gains

Railway Express Agency on Feb. 2 announced that nation-wide air express shipments during 1937 showed a 35% increase over 1936. Shipments in 1937 totalled 628,048 compared with 465,727 in 1936, an increase of 162,321. Gross revenue showed a 27% increase over 1936 while the average length of haul increased from 763 miles in 1936 to 850 miles last year. Shipments carried during the 12 months ended Dec. 31, weighed 2,157 tons, an increase of 12½% over the preceding 12 months. The average weight per shipment dropped from 8.23 pounds in 1936 to 6.87 pounds in 1937.

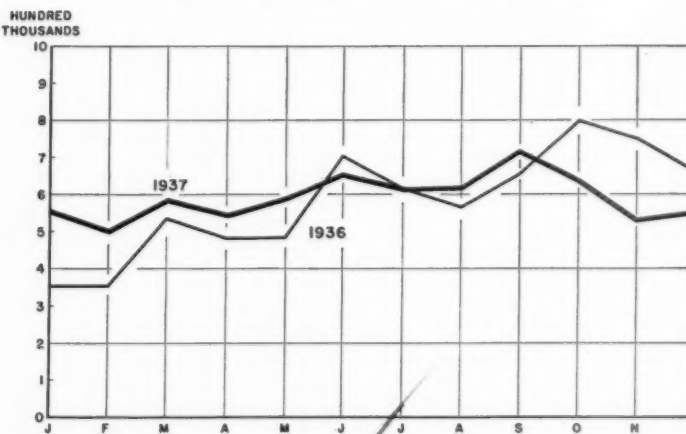
PASSENGER MILES FLOWN



REVENUE PASSENGER MILES FLOWN



POUNDS OF EXPRESS CARRIED



## Inter-America Express Up

Miami, Fla., Feb. 9—Air commerce between North and South America was 85% better during 1937 than in 1936. Planes in and out of Miami carried 292,842 pounds of air express shipments last year, as compared with 160,044 pounds in 1936.

OTTAWA, Jan. 30—Postoffice officials say the Prince George-Fort Grahame, B. C., air mail route will be extended to Ware, B. C., about March 12.

APPARENTLY THE ONLY airline to show a profit for the last half of 1937 was Delta Air Corporation, operating between Charleston, S. C., and Dallas. Operating economies combined with steadily increasing business evidently accomplished what every other airline failed to do during the last six months.

SPOKANE, WASH., Jan. 28—Three southeastern Washington cities, Dayton, Pomeroy, and Clarkston have launched a campaign to secure air mail service from Spokane to Lewiston, and from there to Walla Walla.

## New WAE Offering; Boettcher Chairman

Los Angeles, Feb. 1—Appointment of Charles Boettcher II of Denver as chairman of the board of directors of Western Air Express and authorization of the issuance of 130,818 shares of capital stock at \$2 per share were announced today.

The shares will be offered to present holders in ratio of one new share for each two now held, subject to approval of California Corporation Commission and the Securities and Exchange Commission. Purpose of the new issue is to raise additional working capital to finance expansion and purchase of new equipment.

Arrangements have been completed for the acquisition of a large interest in WAE by Boettcher and James Q. Newton, both of Denver. Nicholson, associated with Harris, Upham & Co., will become a director.

Boettcher gained national attention when he was kidnapped and released after payment of \$60,000 ransom in 1933.

## Requests Withdrawal

Marine Airlines has filed with the Securities and Exchange Commission a request for withdrawal of its stock registration statement. The statement, covering 221,500 shares of capital stock, was filed August 25, 1936 and was subsequently amended. The company is now in dissolution. James M. Eaton is the president.

## S. E. C.

The following have filed applications with the Commission for registration of securities on national securities exchanges as follows:

**Interstate Aircraft & Engineering Corp.**: 125,000 shares of common stock at \$1 a share. Upon sale of each five shares to the public for cash, corporation has agreed to issue to Harry V. Reynolds, president and director, and P. J. Brady, secretary-treasurer, one share of stock until they have received a total of 50,000 shares, 15,000 of which have been issued. They have agreed to transfer to Laswell & Co., underwriter, one-half of this 50,000.

Upon sale, and receipt of \$100,000 it is planned to spend the following approximate amounts: \$15,000 payment on real property; \$38,000 payment on machinery, equipment, furniture, fixtures, contracts now in effect; \$2,000 down payment on purchase of one honing machine and equipment, ordered but not delivered; \$6,000 payment of accrued taxes; \$8,000 for payment of current bills; \$18,500 bank loans; \$4,201.23 payment of G. B. Gibson note; \$8,298.75 to increase shop personnel, payroll and inventory.

Reynolds and Brady agree on maximum salary of \$100 a week for two years from July 1, 1937. Balance sheet of Oct. 31, 1937 showed assets and liabilities of \$434,963.34.

**Breeze Corps, Inc.**—Hearings having been concluded, the registrant's requested oral argument has been postponed till Feb. 11. Stop order proceedings pending.

## New Northern Service

**WHITEHORSE, YUKON TERRITORY.** Jan. 28—Northern Airways today completed the first round trip of a Vancouver-Yukon service, another development in rapidly increasing number of air lines to other parts of the Yukon, Alaska and British Columbia.

Everett L. Wasson, veteran flyer, has been named chairman of the new Whitehorse Board of Trade's aviation committee.



## AIR ASSOCIATES' PROFIT IS \$83,390

Net Sales Increase 39% For 1937  
Fiscal Year, Annual Report  
Reveals

Air Associates, Inc., Garden City, N. Y., reports a net profit of \$83,390.19 for the fiscal year ended Sept. 30, 1937, after provisions for federal income and undistributed profit taxes and all other charges. This is equal to 77 cents per share on 82,921 shares outstanding, 25,000 of which were issued in May, 1937, and compares with a net profit of \$65,033.08 for the previous year.

Net sales for the year amounted to \$1,503,668.88, an increase of \$405,257.70 or 39% over the total for the preceding year. Net current assets as of Sept. 30, 1937, were \$415,855.87, an increase of \$160,058.13 over the \$255,797.74 reported at the end of the previous fiscal year.

Earned surplus increased \$33,054.85 after deduction of dividend payments aggregating \$50,305.90, comprising one dividend of \$1 per share on old preferred stock, three quarterly dividends of \$1.75 on new preferred stock, two regular common dividends of 10 cents and one extra common dividend of 20 cents per share.

Under a plan of recapitalization effected during the year, each share of issued common stock without par value was changed into three shares of new common stock with \$1 par value, of which 250,000 shares were authorized; 1,360 shares of preferred stock without par value held in the treasury were cancelled; 1,398 authorized but unissued shares of preferred stock without par value were changed into 2,742 shares of new preferred stock with \$9 par value; each share of outstanding preferred stock without par value and accumulated dividends thereon, amounting to \$44 per share, were exchanged for one share of new first preferred stock together with five shares of new common stock. A total of 25,000 shares of new common stock were sold to underwriters at \$7 per share.

## S. E. C.

Following is official summary of transactions and holdings of officers, directors and principal stockholders of corporations with equity securities registered, filed with the SEC Jan. 1 to 10. Unless otherwise indicated, transactions were made in December and holdings are as of the end of that month.

**Aero Supply Mfg. Co.**—Luke E. Graham, off. and dir., received 700 cl. B as compensation, holding that amount. Sam J. Irving, off. and dir., sold 100 in March, 1937, and received 700 as compensation in December, holding 700.

**Bendix Aviation Corp.**—Johnson N. Camden, dir., decr. 100 com. to 8,400.

**Boeing Airplane Co.**—Fred P. Laudan, dir., decr. 100 com. to 213.

**Chicago & Southern Air Lines**—Bruce E. Braun, dir., holds 800 com. vtc. and inc. conv. pref. 100 to 250.

**Consolidated Aircraft Corp.**—C. A. Van Dusen, off. and dir., inc. com. 100 to 3900 and holds 148 cl. conv. pfd.

**National Aviation Corp.**—Johnston Sec. Corp., benef. owner, decr. 160 com. to 61,950, by exchange.

**Pan American Airways Corp.**—Graham E. Grosvenor, dir., decr. 100 com. to 2,900.

**Transcontinental & Western Air**—Marco F. Hellam, dir., disposed of all of 900 com.

**Roland Palmedo, dir.**, disposed of all of 100 com.

**Western Air Express**—James Q. Newton, dir., decr. 1,000 to 100 com.

Following is tabulation of equity holdings filed by persons becoming officers, directors or principal stockholders of issuers having any securities registered:

**Bendix Aviation Corp.**—A. C. Anderson, director, none, Dec., 1937.

## CONTRACTS

The Department of Labor announced the following contracts, amounting to \$1,803,668.00, signed during the week ended Jan. 27 by various government agencies:

**Suncook Mills.** Suncook, N. H., airplane cloth, Navy, \$10,876.45.  
**Shell Union Oil Corp.**, New York City, engine fuel, Army Air Corps, \$270,733.90.

**Standard Oil Company of New Jersey.** New York City, engine fuel, Army Air Corps, \$197,309.00.

**Humble Oil and Refining Co.**, Houston, Tex., engine fuel, Army Air Corps, \$143,575.00.

**Shell Oil Company.** San Francisco, Calif., engine fuel, Army Air Corps, \$410,582.50.

**Shell Petroleum Co.**, St. Louis, Mo., engine fuel, Army Air Corps, \$678,890.70.

**Standard Oil Co.**, of California, San Francisco, Calif., engine fuel, Army Air Corps, \$18,847.50.

**International Harvester Co.**, Chicago, Ill., tractor-mowers, Army Air Corps, \$11,804.80.

**Pioneer Instrument Co.**, Brooklyn, N. Y., indicators, Navy, \$10,750.00.

**Pioneer Instrument Co.**, Brooklyn, N. Y., altimeters, Navy, \$16,335.00.

**Pioneer Instrument Co.**, Brooklyn, N. Y., indicators, Navy, \$19,500.00.

**Service Tool and Engineering Co.**, Dayton, Ohio, combat material, Army Air Corps, \$14,463.15.

The Department of Labor announced the following contracts, amounting to \$3,536,637.58, signed during the week ended Feb. 3 by various government agencies:

**Socony-Vacuum Oil Co.**, New York City, engine fuel, Army Air Corps, \$14,992.86.

**Republic Steel Corp.**, Massillon, Ohio, steel rod and sheet, Army Air Corps, \$12,487.01.

**Chicago Metal Hose Corp.**, Maywood, Ill., conduit, Army Air Corps, \$10,629.00.

**Beech Aircraft Corp.**, Wichita, Kansas, airplane, Bureau of Air Commerce, \$13,005.00.

**Bell Aircraft Corp.**, Buffalo, N. Y., airplane parts, Navy, \$11,089.04.

**Kollsman Instrument Corp.**, Brooklyn, N. Y., aircraft compasses, Navy, \$10,800.00.

**United Aircraft Corp.**, Chance Vought Aircraft Division, E. Hartford, Conn., airplanes and parts, Navy, \$3,425,691.60.

**Link Aviation Devices.** Binghamton, N. Y., trainers, Navy, \$26,794.82.

**United Aircraft Products.** Dayton, Ohio, regulator assemblies, Army Air Corps, \$11,145.25.

## Army Fuel Contracts

The War Department recently awarded contracts amounting to \$1,818,786.37 for aircraft engine fuel for the last six months of the fiscal year 1938, which ends June 30, next. Shell Petroleum Corporation, St. Louis, received the largest contract, totalling \$678,890.70. Other awards were made to Shell Oil Company, San Francisco, \$410,582.50; Shell Union Oil Corp., New York, \$270,733.90; Standard Oil Company of New Jersey, New York City, \$197,309.00, and Humble Oil and Refining Company, Houston, Tex., \$143,575.00.

## Trans-Canada Orders 6 More Lockheed 14s

Los Angeles, Feb. 7.—Trans-Canada Air Lines have signed an order with Lockheed Aircraft Corp. for six additional Model 14 transport planes, costing approximately \$742,000 including import duty and special equipment, it was announced today. Receipt of this order makes Lockheed's backlog \$6,572,000, a record high.

When this order is filled, Trans-Canada will have a total of 15 Lockheed transports—five Electras and 10 of the 250-mph. Lockheed 14s, all to be placed in transcontinental service late next fall when the Vancouver-Winnipeg division is opened. Carl Squier, sales manager for the plant, said this will be the largest Lockheed fleet in the world.

WALTER JACKSON has been appointed flying instructor of the Roosevelt Aviation School, Roosevelt Field, L. I.

## Navy's Worst Crash

San Pedro, Cal., Feb. 3.—Eleven Navy men died and three were saved when two flying boats collided 70 miles at sea during battle maneuvers last night. It was the worst plane disaster in Navy history.

Victims were Lieut. Elmer Glenn Cooper, Carleton Barmore Hutchins, Aviation Cadet Erwin John Koch, and crew members as follows: George G. Griffin, Maurice Fitzmaurice, Paul Landgrebe, John Gregory Niedzwiecki, Julian Rawls, Joe E. Walton, Marion W. Woodruff, J. H. Hester.

Surviving are D. B. McKay and W. O. Hatfield, with broken legs, and L. S. Carpenter, fractured arm. Another who parachuted, died.

A board of inquiry will convene tomorrow to discuss new safety measures.

**SAN FRANCISCO**—A twisted fuselage found on beach north of Oceanside identified tentatively by Naval authorities as wreckage of private plane of Edward Swinney which crashed nearly 5 years ago. Swinney escaped. A skull found nearby was unconnected with wreck, claim.

**ATLANTIC CITY**—Five passenger Boeing seaplane crashed after motor stalled. Owned by Frank Fraser, Staten Island. Pilot, only occupant, John Martin, Bayport, L. I., uninjured, Jan. 30.

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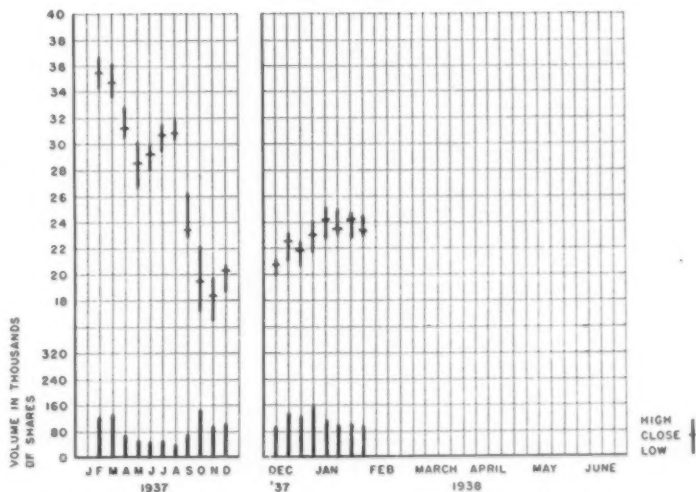
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## WEEKLY AVIATION AVERAGES (1937-1938)



## LEADING AVIATION STOCKS

### NEW YORK STOCK EXCHANGE

	Week Ending Jan. 29				Week Ending Feb. 5			
	High	Low	Net Change	Sales	High	Low	Net Change	Sales
Aviation Cp. of Del.	41½	31½	— 3½	11,100	37½	31½	— 1½	5,400
Bendix Aviation	137½	111½	— 21½	13,400	123½	111½	— 3½	9,300
Boeing Airplane	331½	273½	— 43½	54,200	303½	251½	— 1½	41,400
Consolidated Aircraft	171½	145½	— 23½	20,900	157½	133½	— 1½	8,900
Curtiss-Wright	41½	41½	— 3½	38,900	43½	41½	— 1½	27,100
Curtiss-Wright A	171½	143½	— 13½	22,400	153½	133½	— 1½	9,200
Douglas Aircraft	441½	371½	— 5½	36,800	397½	35½	— 1½	22,800
Glenn L. Martin	201½	161½	— 3½	22,700	173½	157½	— 1½	11,800
Natl. Aviation Corp.	9	8	— 3½	1,100	81½	71½	— 1½	900
N. American Aviation	95½	81½	— 11½	33,800	87½	73½	— 3½	17,300
Sperry Corp.	201½	173½	— 13½	42,400	193½	173½	— 1½	27,800
Thompson Products	131½	121½	— 11½	1,700	13	121½	— 1½	1,800
TWA	67½	53½	— 1	3,500	67½	53½	— 1	2,800
United Air Line	71½	63½	— 1½	14,800	73½	63½	— 1½	7,300
United Aircraft	251½	211½	— 31½	56,700	231½	201½	— 3½	42,500

## NEW YORK CURB EXCHANGE

	Week Ending Jan. 29				Week Ending Feb. 5			
	High	Low	Net Change	Sales	High	Low	Net Change	Sales
Aero Supply A	16	16	— 1½	100	141½	141½	— 1½	100
Aero Supply B	37½	31½	— 1½	1,600	31½	31	— 1½	1,600
American Airlines	103½	91½	— 1½	900	10	93½	— 3½	700
Beech Aircraft	17½	17½	— 1½	200	15½	15½	— 1½	300
Bell Aircraft	14	131½	— 1½	500	14	121½	— 1	500
Bellanca Aircraft	35½	31½	— 3½	600	31½	31½	— 1½	600
Breeze Corp.	61½	6	— 3½	200	6	53½	— 1½	600
Brewster Aero	41½	37½	— 3½	2,300	51½	47½	— 1½	7,400
Fairchild Aviation	3	23½	— 1½	600	3	23½	— 1½	300
Irving Chute Co.	103½	10	— 1½	2,200	103½	10	— 1½	500
Lockheed Air	9	75½	— 5½	16,400	85½	75½	— 1½	6,200
Pan American Air	17	15	— 1	3,600	151½	141½	— 1	2,100
Seversky Aircraft	21½	17½	— 3½	3,300	11½	13½	— 1½	4,200
Waco Aircraft	27½	25½	— 3½	300	27½	21½	— 1½	200
Western Air Express	34½	31½	— 3½	600	34½	3	— 1½	900

## Fairchild and Waco Sole Bidders On 2 Lots Totalling 26 Ships

Specifications Drawn Up by Bureau of Air Commerce Virtually Eliminate Other Manufacturers From '38 Program

Fairchild Aircraft Corporation, Hagerstown, Md., was sole bidder on a lot of 23 airplanes and Waco Aircraft Corporation, Troy, O., was sole bidder on a lot of three planes, which the Bureau of Air Commerce proposes to purchase for its inspection service. Bids were opened Feb. 1 in the division of purchases and sales of the Department of Commerce.

Reason for the sole bids was that the specifications virtually eliminated any other manufacturer. It is understood that Bureau inspectors favored the Fairchild high-wing cabin monoplane for field work and the Bureau decided to risk protests from other manufacturers by specifying the exact type of airplane it desired.

The 26 planes, which comprise the major part of the Bureau's 1938 re-equipment program, were advertised on three separate proposals, one calling for 12 planes with engines, another for 11 without engines, and a third for three with engines. The Bureau also asked for trade-in allowances or cash offers on five Kinner Playboys, five Monocoups, three Wacos, one Fairchild and one pair of floats, Edo model.

Fairchild bid \$3,449 each, or a total of \$37,939, for furnishing 11 planes without engines. The company offered a total trade-in allowance of \$4,255 for five Monocoups and one Fairchild. On the proposal calling for 12 planes with engines, Fairchild bid \$5,544 each or a total of \$66,528. A total trade-in allowance of \$4,010 for five Kinner Playboys was quoted.

The Bureau plans to remove certain items of equipment from used planes for installation in the 11 new ships which are to be furnished without engines. This equipment will include wheels, tires and tubes, tail wheel, tail wheel fork assembly, and other items. The bidder was asked to set forth the unit cost of corresponding new items and such amount is to be deducted from the unit cost of each plane wherein such items are used. Fairchild quoted \$146.48 as being the cost of these new items.

Waco Aircraft submitted two bids on the proposal calling for three 3-place cabin biplanes. One bid included furnishing the planes with magnetos. Waco bid \$7,500 apiece, or a total of \$22,500 with this equipment. The other bid included battery and magneto and the price was \$7,775, or \$23,325 total. Waco offered trade-in allowance of \$3,900 for three Wacos and the pair of Edo floats.

Among parties offering cash for used planes were Becker-Förner Flying Service, Jackson, Mich.; R. R. Shackleton of Newport Airways, Newport, Wash.; Frank R. Mead, Jr., Oakland, Calif.; Roy Giard, Madison, S. D., and the Dallas Aviation School, Dallas, Texas.

At present the Bureau owns 68 planes, 45 of which are in service and 23 in storage. Of the 23, 11 are having engines and other equipment removed for use in new planes. The engines are at present being reconditioned and modernized.

The Bureau intends to purchase a total of 35 new planes before the end of the fiscal year 1938. At that time, in addition to the 35 new ships, it will be operating planes made in the following years: one 1931 model, one 1932, 10 1934, two 1935, 13 1936 and 6 1937. By the end of the fiscal year 1939 (June 30, 1940), the Bureau

hopes to be operating nothing older than 1935 models.

Some months ago the Bureau advertised for bids for planes, the specifications for which were Fairchilds, and withdrew the advertisements by telegram after Cessna and Luscombe Airplane companies protested against discrimination. These companies expressed the belief that the Bureau should purchase from numerous companies and not from just one concern.

Bureau officials have taken the viewpoint that they need a certain type of general all-purpose ship for field work and that inspectors were sounded out first as to their preferences. The Bureau felt, according to officials, that it should be able to purchase whatever type of ship it desired without throwing bidding open to everyone. One airplane manufacturing concern indicated at the Chicago show that it would protest against the Bureau's advertisements but it is not known whether it will follow through. Basis of the complaint was that the advertisements specified that the model must have been in production a year. This company has not had its particular model in production for a year, although it has an A.T.C. "If an A.T.C. means anything, it should be a sufficient badge of merit to warrant purchase by the Bureau of Air Commerce," one official said.

Contract awards will be made at an early date.

## Boeing Adds Course, Equips Laboratory

Boeing School of Aeronautics, Oakland, Cal., has established a new course in aircraft factory engineering, and is developing a new engine laboratory.

In connection with the course, the school has carried on research which reveals that design and lay-out men and all engineers and engineering clerks represent half of all airplane factory engineers.

Included in the new laboratory is a stroboglow, used in study of fast moving engine mechanisms, a single-cylinder engine for testing knock tendencies of gasoline, and condensers for gasoline distillation tests.

Dallas, Tex., Jan. 30.—Edward Stephen Winn, 23 pilot, was convicted of 1st degree murder yesterday and sentenced to be electrocuted for slaying Willard L. Presley Nov. 20.

## Elect Red Mosier V. P. of American Airlines

O. M. "Red" Mosier has been elected vice-president of American Airlines, according to announcement Feb. 7 by C. R. Smith, president.



Mosier has been vice-president in charge of operation and maintenance of Braniff Airways.

Mosier goes to American with a wide experience in many phases of aviation. He will be in charge of personnel, relationships with cities, airports and other activities. He is one of the most widely known men in air transportation.

Aviation first claimed his interest while he was attending the University of Texas, where he enrolled in aeronautical engineering. Then followed service in the Army Air Corps during the World War. Later he became officer in charge of flying at Rockwell Field, San Diego.

After the War, Mosier was lured away from flying to become secretary in Washington to Senator J. W. Harrell. His next job was selling for a national sporting goods company. In 1927 he became president of Lloyd-Mosier Air Commerce at Colorado Springs, and the record he set in an air race in which one of the pylons was the summit of Pike's Peak still stands.

Then Mosier returned to Oklahoma, where he was born 40 years ago, and was made city manager of Oklahoma City, fighting politics, cutting expenses, and giving that community a taste of efficient administration. On Jan. 1, 1937 Mosier responded to Tom Braniff's invitation to become Braniff vice-president in Dallas.

## Joystick Inventor May Sue

A suit claiming more than \$4,000,000 is expected to be filed in the Court of Claims following the decision of the U. S. Supreme Court Feb. 1 that the patent of Robert Esnault-Pelterie, French inventor, for the single control levers ("joysticks") is valid. The court held that the U. S. had infringed it in manufacture of wartime army and navy planes. Justice Black alone dissented.

NORFOLK, VA.—Lieut. S. M. Adams, attached to aircraft carrier Enterprise, escaped when his fighting plane was forced down in Hampton Roads at naval base here. The plane sank Feb. 1.

## CONSOLIDATED TO NEW PROFIT MARK

Estimate For 1937 Put at Total of \$475,000, or \$282,000 Over 1936 Figure

San Diego, Feb. 8.—Estimates place net profits of Consolidated Aircraft Corp., at \$475,000 in 1937, or about 70 cents a share on the 574,760 common shares outstanding. The 1936 total was 192,411 or 29 cents a common share.

Dividends in 1937 were \$358,500 including a 50-cent a share payment on the common stock. It was the first common dividend in more than eight years.

Other figures:

Total deliveries about \$12,000,000, a new record compared with \$4,218,399 in 1936 and \$2,841,753 in 1935.

New business, about \$7,800,000.

Unfilled orders on Jan. 1, 1938 estimated at \$14,000,000, consisting of \$12,500,000 Navy contracts and \$1,500,000 commercial and export business. At start of 1937, backlog was \$18,169,726.

During 1937 Consolidated delivered 88 PBY Navy flying boats and spare parts equivalent to 17½ more ships; six P2Y-3 airboats and spares to Argentina government, two PBY-1 boats to Russia, and one to a private owner in the United States.

The firm revealed that it has two officials in Europe seeking contracts, and that it is prepared to undertake immediate construction of its new 54-passenger, 4-engine transoceanic project.

No notes were payable Dec. 31, 1937, as compared with \$675,000 on Dec. 31, 1936.

## ARMY TESTS BALLOON

Helium Filled Observation Craft Carries 90-H. P. Engine

Completion of preliminary tests on the C-6, helium-filled motorized observation balloon at Fort Sill, Okla., has been announced by the War Department. Several hundred flights have been made since September.

The C-6 has the advantages over the World War "sausages" of its own engine and a motor-driven winch at the landing site. It is 107-ft. long, 30-ft. in diameter, contains 52,000 cu-ft. of helium, and is powered by a 90-hp. Lambert motor mounted in a detachable car, giving the balloon a speed of 40 mph.

## Putnam Gives Up Hope

George Palmer Putnam told reporters in Panama Jan. 24 that he has abandoned hope that his famous wife, Amelia Earhart Putnam is still alive.

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